1990-1992 CATALOG

CENTRAL PIEDMONT COMMUNITY COLLEGE

HARRY W. LEWIS
SYSTEMS PROGRAMMER
CENTRAL PIEDMONT COMM. COLL.
P. O. BOX 35009
CHARLOTTE, NC 28235

Central Piedmont Community College 1990-92

Main Campus/Area Learning Centers

Mailing: P.O. Box 35009, Charlotte, NC 28235

Address

Delivery: 1201 Elizabeth Avenue
at Old Kings Drive, Charlotte, NC 28204

Main Campus Telephones

Welcome Center: 704/342-6719
College Switchboard: 704/342-6633
For other listings see Charlotte Telephone Directory

Main Campus Welcome/Information Center Hours

Monday-Thursday: 7:30 a.m.-9:30 p.m.
Friday: 7:30 a.m.-5:30 p.m.
Saturday: 7:30 a.m.-1 p.m.

Area Learning Centers Locations

Matthews Area Learning Center
Matthews Depot Shopping Center
115 E. Matthews Street, Matthews, NC
Phone: 704/847-1477

North Center
Verhoeff Dr., Huntersville, NC
Phone: 704/875-8360

Pineville Area Learning Center
Park 51 Shopping Center
Highway 51 and Park Road Extension
Pineville, NC
Phone: 704/542-9678

Freedom Drive Area Learning Center
2615 Freedom Drive
Charlotte, NC
Phone: 704/342-6658

Class Schedules and Catalogs

Not all courses listed in this catalog are offered each quarter. Class schedules showing times and locations of all classes taught each quarter are delivered in Mecklenburg County in THE CHARLOTTE OBSERVER, Sunday edition, approximately six weeks prior to the start of the quarter. Catalogs and Class Schedules may be obtained free at the Welcome Center (Garinger Building), at any of the Area Learning Centers (Matthews, North, Pineville, and West), or by calling 704/342-6719 to request copies by mail.

Changes

CPCC reserves the right to change its regulations, policies, fees, and programs without notice.

Open Door Policy

CPCC is committed to the concept that, given enough time, most students can accomplish any learning task. The College strives to help students realize their potential as worthwhile and productive members of society.

Equal Opportunity

In compliance with federal law, including the provisions of Title IX of the Education Amendments of 1972, and Sections 503 and 504 of the Rehabilitation Act of 1973, Central Piedmont Community College does not discriminate on the basis of race, sex, religion, color, national or ethnic origin, age, handicap, or military service in its administration of education policies, programs, or activities; its admissions policies; scholarship and loan programs; or employment. Inquiries or complaints should be directed to the Vice President for Education, Terrell Administration Building, Room 318, CPCC, P.O. Box 35009, Charlotte, NC 28235. Telephone 704/342-6730.

Greetings from the President

Many of us have read Lewis Carroll's delightful *Alice's Adventures in Wonderland.* In that story Alice dreams of a journey through a land of fantasy where she has an assortment of interesting experiences, including meeting a Cheshire cat. Being somewhat bewildered by her experiences, Alice asks

> "Would you tell me, please, which way I should go from here?"
> "That depends a good deal on where you want to go," responded the cat.

College is not a fantasy, but it is a Wonderland of experiences through which we invite you to travel. You may wish to prepare for a baccalaureate degree, take courses to prepare you for a career, or simply study for the joy of learning — it "depends a good deal on where you want to go."

Regardless of your destination, CPCC can be a meaningful part of your journey through the Wonderland of post-secondary education.

Our doors are open to all travelers.

Ruth G. Shaw

Ruth G. Shaw
President

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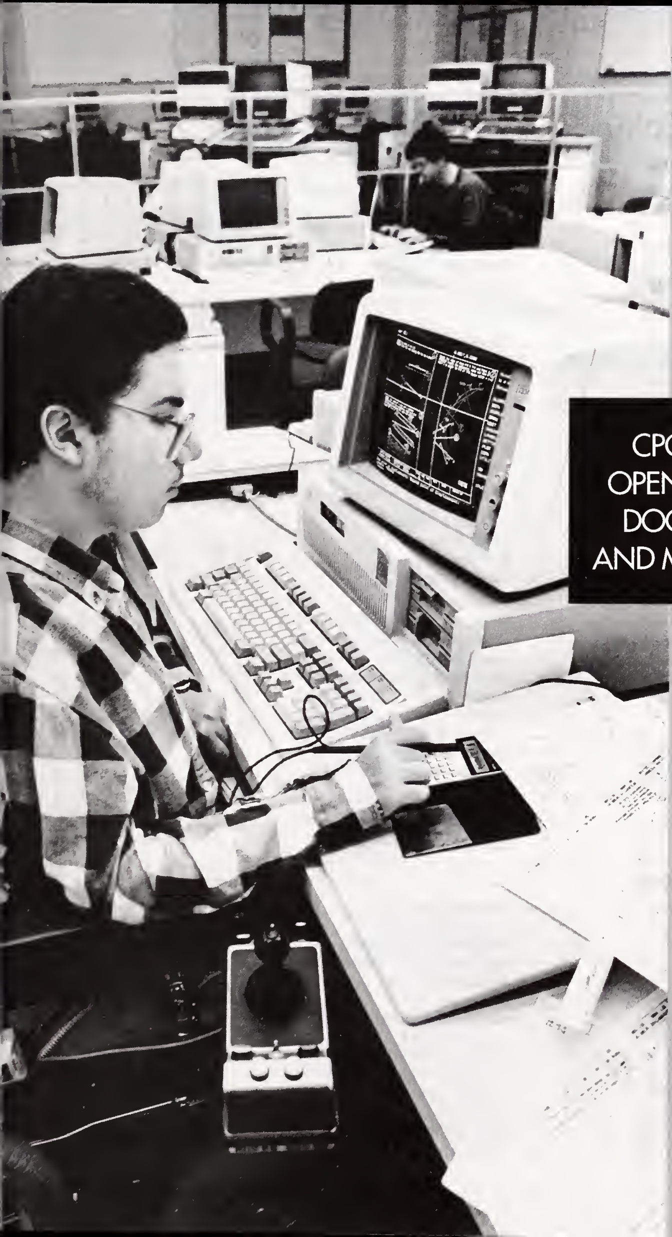
ACADEMIC CALENDAR



CPCC:
OPENING
DOORS
AND MINDS

Academic Calendar 1990-92

Summer Quarter 1990

Current Spring Students Register	Monday & Tuesday, May 7 & 8
Regular Registration	Wednesday & Thursday, May 9 & 10 Monday-Thursday, May 14-17
Final Registration	Monday & Tuesday, June 4 & 5

Regular Session:

Classes Begin	Thursday, June 7
Independence Day Holiday	Wednesday, July 4
Classes Resume	Thursday, July 5
Classes End	Thursday, August 9

First Short Session:

Classes Begin	Thursday, June 7
Classes End	Tuesday, July 10

Second Short Session:

Final Registration	Monday & Tuesday, July 9 & 10
Classes Begin	Wednesday, July 11
Classes End	Saturday, August 11

Fall Quarter 1990

Current Summer Students Register	Monday & Tuesday, July 30 & 31
Regular Registration	Wednesday & Thursday, August 1 & 2 Monday-Thursday, August 6-9
Final Registration	Tuesday & Wednesday, August 28 & 29
Labor Day Holiday	Monday, September 3
Classes Begin	Wednesday, September 5
Classes End	Tuesday, November 20
Thanksgiving Holiday	Thursday-Sunday, November 22-25

Winter Quarter 1990-91

Current Fall Students Register	Monday & Tuesday, October 29 & 30
Regular Registration	Wednesday & Thursday, October 31 & November 1 Monday-Thursday, November 5-8
Final Registration	Monday & Tuesday, November 26 & 27
Classes Begin	Thursday, November 29
Christmas Holiday	Thursday, December 20-Tuesday, January 1
Classes Resume	Wednesday, January 2, 1991
King Holiday	Monday, January 21
Classes End	Wednesday, February 27, 1991

	S	M	T	W	T	F	S
APR '90	1	2	3	4	5	6	7
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Academic Calendar 1990-92

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	28	29	30				
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	24	25	26	27	28	29	30

Spring Quarter 1991

Current Winter Students Register	Monday & Tuesday, February 4 & 5
Regular Registration	Wednesday & Thursday, February 6 & 7 Monday-Thursday, February 11-14
Final Registration	Thursday & Monday, February 28 & March 4
Classes Begin	Wednesday, March 6
Spring Holiday	Friday-Monday, March 29-April 1
Classes Resume	Tuesday, April 2
Advisement Day	Thursday, May 2
Classes End	Saturday, May 25

Summer Quarter 1991

Current Spring Students Register	Monday & Tuesday, May 6 & 7
Regular Registration	Wednesday & Thursday, May 8 & 9 Monday-Thursday, May 13-16
Final Registration	Monday & Tuesday, June 3 & 4

Regular Session

Classes Begin	Thursday, June 6
Independence Day Holiday	Thursday & Friday, July 4 & 5
Classes Resume	Monday, July 8
Classes End	Saturday, August 10

First Short Session:

Classes Begin	Thursday, June 6
Classes End	Wednesday, July 10

Second Short Session:

Final Registration	Tuesday & Wednesday, July 9 & 10
Classes Begin	Thursday, July 11
Classes End	Saturday, August 10

Fall Quarter 1991

Current Summer Students Register	Monday & Tuesday, July 29 & 30
Regular Registration	Wednesday & Thursday, July 31 & August 1 Monday-Thursday, August 5-8
Final Registration	Wednesday & Thursday, August 28 & 29
Labor Day Holiday	Monday, September 2
Classes Begin	Wednesday, September 4
Advisement Day	Wednesday, October 30
Classes End	Wednesday, November 20
Thanksgiving Holiday	Thursday-Sunday, November 28-December 1

Academic Calendar 1990-92

Winter Quarter 1991-92

Current Fall Students Register	Monday & Tuesday, November 4 & 5
Regular Registration	Wednesday & Thursday, November 6 & 7 Monday-Thursday, November 11-14
Final Registration	Monday & Tuesday, November 25 & 26
Classes Begin	Monday, December 2
Christmas Holiday	Friday, December 20-Wednesday, January 1
Classes Resume	Thursday, January 2, 1992
King Holiday	Monday, January 20
Advisement Day	Thursday, February 6
Classes End	Monday, March 2, 1992

Spring Quarter 1992

Current Winter Students Register	Monday & Tuesday, February 10 & 11
Regular Registration	Wednesday & Thursday, February 12 & 13 Monday-Thursday, February 17-20
Final Registration	Wednesday & Thursday, March 4 & 5
Classes Begin	Monday, March 9
Spring Holiday	Friday-Monday, April 17-20
Classes Resume	Tuesday, April 21
Advisement Day	Tuesday, May 5
Classes End	Wednesday, May 27
Saturday Classes End	Saturday, May 30

Summer Quarter 1992

Current Spring Students Register	Monday & Tuesday, May 11 & 12
Regular Registration	Wednesday & Thursday, May 13 & 14 Monday-Thursday, May 18-21
Final Registration	Monday & Tuesday, June 8 & 9

Regular Session:

Classes Begin	Thursday, June 11
Independence Day Holiday	Friday & Saturday, July 3 & 4
Classes Resume	Monday, July 6
Advisement Day	Thursday, July 30
Classes End	Saturday, August 15

First Short Session:

Classes Begin	Thursday, June 11
Classes End	Tuesday, July 14

Second Short Session:

Final Registration	Monday & Tuesday, July 13 & 14
Classes Begin	Wednesday, July 15
Classes End	Thursday, August 13

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DEC '91	1	2	3	4	5	6	7
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JAN '92				1	2	3	4
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FEB							1
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	23	24	25	26	27	28	29
MAR	1	2	3	4	5	6	7
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JUNE		1	2	3	4	5	6
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Academic Calendar 1992-93

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NOV	15	16	17	18	19	20	21
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	27	28	29	30	31		

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JAN '93	10	11	12	13	14	15	16
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MAR	14	15	16	17	18	19	20
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	28	29	30	31			

Fall Quarter 1992

Current Summer Students Register	Monday & Tuesday, August 3 & 4
Regular Registration	Wednesday & Thursday, August 5 & 6 Monday-Thursday, August 10-13
Final Registration	Wednesday & Thursday, September 2 & 3
Labor Day Holiday	Monday, September 7
Classes Begin	Tuesday, September 8
Advisement Day	Tuesday, November 3
Classes End	Tuesday, November 24
Thanksgiving Holiday	Thursday-Sunday, November 26-29

Winter Quarter 1992-93

Current Fall Students Register	Monday & Tuesday, November 9 & 10
Regular Registration	Wednesday & Thursday, November 11 & 12 Monday-Thursday, November 16-19
Final Registration	Monday & Tuesday, November 30 & December 1
Classes Begin	Thursday, December 3
Christmas Holiday	Tuesday, December 22-Friday, January 1
Classes Resume	Monday, January 4, 1993
King Holiday	Monday, January 18
Advisement Day	Thursday, February 11
Classes End	Thursday, March 4, 1993

Administration

Ruth G. Shaw	President
E. Worth Campbell, Jr.	Assistant to the President
John E. Harper	Vice President, Business and College Services
William A. McIntosh	Vice President, Student, Staff and Organizational Development
James G. Wingate	Vice President for Education
Lois W. Dixon	Dean, Corporate and Continuing Education
Melvin L. Gay	Dean, Student Development
Thomas E. Griffin	Dean, Instructional Development and Innovation
David L. Hunter	Dean, General Studies
Dallas O. Garrett	Dean, Business, Health, and Technology
Renee P. Westcott	Dean, Learning Resources
Marion H. Baker	Assistant for Education Operations
Fred Remelius	Manager, Plant Services
Valene B. Cannon	Manager, Financial Services

Board of Trustees

William M. Claytor, Chairman
Spurgeon W. Webber, Vice Chairman
Ruth G. Shaw, Secretary

Appointed by the Governor:

Marcus T. Hickman	1992
Maggie W. Ray	1990
Vincent James	1993
Natalie Cohen	1991

Appointed by the Mecklenburg County Board of Commissioners:

Leroy Robinson	1990
William M. Claytor	1993
James B. Sommers	1992
Donald W. Holland	1991

Appointed by the Charlotte-Mecklenburg Board of Education:

Mary Olive Johnson	1992
Barbara Davis	1993
George R. Morgan	1990
Spurgeon W. Webber	1991

Student Association President—Non-Voting Member

How To Read This Catalog

This Catalog should not be read straight through as you would a novel. Instead, skim through it and become familiar with the different kinds of information it contains. Properly used, it becomes a tool for answering many of your questions and for helping you learn more about CPCC. What should you study? What are program requirements? What will you learn in the classes offered? Are you eligible for financial aid? What social or sports organizations are here?

Don't let the unfamiliar language scare you:

Advancement Studies: Basic courses (identified with a 9000 number) which prepare you for more advanced study.

Associate Degree: A document issued to a student signifying completion of a two-year curriculum/program.

Basic Studies/Preparatory Courses: Include Adult Basic Literacy Education (ABLE); Advancement Studies; Adult Basic Education (ABE); General Educational Development (GED); English as a Second Language (ESL); and Adult High School Diploma (HSD). These are identified with 6000 or 9000 numbers and prepare students for more advanced study.

Business, Health, and Technology Programs: A less than one year (certificate), one year (diploma), or a two-year curriculum/program (Associate in Applied Science Degree) of specific courses. The courses are numbered in the 3000-4000s. Some *completed* two-year degrees may be transferred to a four-year college/university. Consult with a faculty adviser or program counselor regarding transferability.

Certificate: A document issued to a student signifying completion of a specific series of skill courses. A certificate curriculum/program is less than one year in length.

Contact Hours: The total hours of class and lab required per week in a course.

Course Description: Tells you what is taught in the course, what the objectives are, and what you should be able to do upon completion. At the end of the description, you can learn required classroom hours, lab hours, clinic or co-op hours, credit hours, and if a prerequisite/corequisite is needed.

Corequisite: Any course which must be taken during the same quarter as the course that specifies the corequisite.

Credit: The number of units a course is worth, measured in quarter hours.

Curriculum: A set of courses which awards a certificate, diploma, or associate degree, but with a purpose such as preparing a student to enter the work world immediately or to transfer to a degree program at another college.

Corporate and Continuing Education: A center offering non-credit continuing education/extension courses for businesses, for upgrading skills, or for personal enrichment (identified by 7000-8000 numbers). Degree: (See Associate Degree definition.)

Diploma: A document issued to a student signifying completion of a one-year curriculum/program. (Also see High School Diploma program.)

Drop/Add: The procedure whereby students may change their class schedules by dropping or adding a course without penalty after initial registration.

Elective Course: A non-required course which a student may choose to take from a number of alternative courses, as distinguished from specific required courses.

Full-Time Student: A student enrolled for 12 or more credits per quarter.

Grade Point Average (GPA): The total number of points earned (A = 4; B = 3; C = 2; D =1; F = 0) divided by the quarter hours of credit attempted.

In-State: A legal resident of North Carolina.

Out-of-State: Legal resident of a state other than North Carolina, or of a foreign country.

Part-Time Student: A student enrolled for fewer than 12 credits per quarter.

Prerequisite: A course you must successfully complete for background information before enrolling in a particular course. For example, Accounting II has a prerequisite of Accounting I.

Program: (see Curriculum definition).

Transcript (student record): A student's official academic record kept in the Office of Student Records. It shows all academic work attempted and grades, as well as transfer credits accepted from other schools.

Transferability: The ability to transfer some *completed* "Business, Health, and Technology programs" (Associate in Applied Science degree) to a college/university. These courses are numbered in the 3000-4000s. Students should consult with a faculty adviser or program counselor regarding transferability. *Also Note:* "Transfer Programs" (Associate in Arts, Associate in Science, or Associate in Fine Arts)

Degree) offer courses comparable to freshman and sophomore courses taught at a four-year college/ university. College transfer courses are numbered in the 1000s and 2000s.

Transfer Programs: CPCC freshman and sophomore (Associate in Arts, Associate in Fine Arts, or Associate in Science) courses which transfer to four-year colleges or universities. They are identified with 1000-2000 numbers. (See Transferability.)

Tuition: The amount of money a student must pay at the time of registration for each hour of academic credit. Tuition is based on the student's residency classification and courses taken.

Withdrawal: The process whereby a student discontinues enrollment in one or more courses. Withdrawal procedures must be done through the Registration Center to be official, or at the Welcome Center after 5 p.m. following schedule adjustment week.

ADMISSIONS

CPCC: A COLLEGE FOR ALL REASONS

Admissions

Central Piedmont Community College follows an "open-door" policy which welcomes all students without regard to color, creed, handicap, race, national origin, or sex. Admission to the College, however, does not mean students will be admitted immediately to a program with specified admissions requirements.

Steps in admissions vary, depending on what a student plans to accomplish at CPCC. STUDENTS ARE ENCOURAGED TO CONTACT THE COLLEGE EARLY IN ORDER TO COMPLETE THE STEPS OUTLINED HERE BEFORE THE REGISTRATION PERIOD BEGINS. Questions should be directed to the Welcome Center, Garinger Building 2nd Floor, 704/342-6719 (Mailing address: CPCC, P.O. Box 35009, Charlotte, NC 28235).

ADMISSIONS QUICK REFERENCE

Adult Basic Education
(ABE: Grades 1-9) — 704/342-6716, Sloan Building Suite J — See page 25

Adult Basic Literacy Education
(ABLE: for students who cannot read, write or compute at an adult level) — 704/342-6716, Sloan Building Suite J — See page 25

Compensatory Education
(For students with special needs) — 704/342-6033, Sloan Building 238 — See page 26.

Degree/Diploma/Certificate Programs, Career Undecided Students, and Program Changes
— 704/342-6719, Welcome Center, Garinger Building 2nd Floor — and the four Area Learning Centers, except for Program Changes which are processed by the Admissions Center— See pages 179, 17

Educational Talent Search and Student Support
— 704/342-6393, Learning Resources Center — See page 39.

High School Programs
- College Experience — 342-6975, Terrell 204.
- Completion/Diploma (Grades 10-12) — 704/342-6778, Terrell 206 — See page 26
- Concurrent Enrollment — 342-6975, Terrell 204.
- Drop-Out Intervention — 342-6535, Terrell 203
- G.E.D. — 704/342-6949, Terrell 202 — See page 26

Human Resources Development
- Bank Teller Training — 704/342-6969, Sloan 264 — See page 39.
- Self-Directed Job Search — 704/342-6969, Sloan 263 — See page 39.
- **International Students**
  - Admissions for F-1 Visas — 704/342-6909, Terrell 222 — See page 16-I.
  - B-2 Visas — See page 16-I.
  - Legal Residents with Permanent Visas — See page 16-I.
  - Limited English Proficiency — 704/342-6556, Terrell 522 — See page 25.

J.T.P.A.
(Job Training Partnership Act) — 704/342-6008, Learning Resources Center 221 — See page 39.

Miscellaneous Special Interest Courses Only
— See page 59-67

Multi-Skills Training Center
(For students with special needs) — 704/342-6037, Taylor 101 — See page 39.

Special Services
(Hearing, Learning, Physical, Sight Disabilities) — 342-6937, Terrell 509 — See page 42.

Veteran and Military Affairs
— 704/342-6785, Terrell 216A — See page 33.

Wider Opportunities for Women
(Single Parents, Non-Traditional Employment, Displaced Homemakers) — 704/342-6532, Garinger 235 — See Page 41.

A. ***Students who plan to enter a degree, diploma, or certificate program*** need to complete these steps ***before*** registration begins:

1. ***Complete an Admissions Form.*** These are available at the Welcome Center, the Admissions Center, at any Area Learning Center, or by mail. On the back of the Admissions Form, indicate the program you plan to enter. *NOTE:* Students who plan to transfer to a four-year college or university after one or two years at CPCC should indicate either the Associate in Arts, Associate in Fine Arts, or Associate in Science Degree program.
2. Have ***official transcripts*** of all high school, pre-college, and other college-level work sent from each school previously attended. These should be directed to: Admissions, CPCC, P.O. Box 35009, Charlotte, NC 28235. The name that you are currently using should appear on each transcript.

   All degree programs, health career diploma programs, and most other diploma programs require high school graduation or the equivalent. The high school graduation requirement is considered to be met with a high school diploma, or by possession of a State High School General Equivalency Certificate (GED), or by possession of an Adult High School Diploma.

   CPCC accepts credits from other accredited colleges and technical institutions. Only courses applicable to the student's program of study with grades of "C" or better will be accepted.
3. ***Take placement tests*** as required for the degree, diploma, or certificate program you plan to enter.

   Appointments for placement tests are made at the Admissions Center (Terrell Building, 2nd Floor), with the exception of most Allied Health programs, where appointments are made by the counselor for those programs. Students who mail in their Admissions Form will receive mailed instructions for scheduling their appointments. Students who complete their Admissions Form at the Welcome Center or at the Admissions Center will receive instructions about placement test appointments at that time.
4. ***Meet with the program counselor*** at the specified time for orientation to the College, overview of the program, placement test results, transfer of credit evaluation, recommended list of courses to register for during your first quarter at CPCC. Some meetings are group appointments for students entering the same programs.
5. ***Register for courses.*** See page xx and refer to the Academic Calendar for registration dates and availability of the CPCC Class Schedule.

B. ***Students who want to change their programs*** need to complete the following steps ***before*** registration begins:

1. Get a Change of Program Form at the Admissions Center (Terrell Building 2nd Floor) or telephone 704/342-6904 to start processing.
2. Complete a new Admissions Form.
3. Take additional placement tests, if required for the new program.
4. Meet with the program counselor at the specified time. Some meetings will be group appointments for students enetering the same program.
5. Register for courses in the new program. Refer to the Academic Calendar for registration dates and availability of the CPCC Class Schedule.

C. ***Students who need career/life planning assistance before selecting a program:***

1. Get an Admissions Form from the Welcome Center, the Admissions Center, one of the Area Learning Centers, or request that one be mailed to you. This should be done early and ***before*** the registration period. Indicate "Undecided," instead of a program, on the back of the Admissions Form.
2. Follow steps A.2. and A.3. above.
3. Meet with the career/life planning counselor as scheduled. You will receive further instructions about how to proceed at this time. If additional information is needed, call the Admissions Center (704/342-6904).
4. Register for courses after you see your program counselor at the scheduled time. See page xx and refer to the Academic Calendar for registration dates and availability of the CPCC Class Schedule.

D. ***Students who plan to complete high school (grades 10-12).*** CPCC offers the Adult High School Diploma Program (HSD) and the Tests of General Educational Development (GED):

1. The ***Adult High School Diploma (HSD)*** program leads to an earned diploma granted by the Charlotte/ Mecklenburg Board of Education. For graduation, the Board requires four units of English, two units of mathematics, two units of general science and biology, and two units of American and world history, as well as successful completion of the North Carolina Competency Tests. Students who have not met each of these requirements enroll for at least one quarter of study in appropriate areas. After one quarter, a standardized test is given. A satisfactory test score earns credit toward graduation for that entire subject. North Carolina Competency Tests are administered on a regular basis. There is no charge for these classes or for the Competency Tests. For more information about the Adult High School Diploma program, call 704/342-6688 or 342-6864.

2. The ***Tests of General Educational Development (GED).*** GED Testing offers another opportunity for students who have not completed high school. A High School Diploma Equivalency is awarded by the North Carolina Department of Community Colleges after a student passes five individual tests in writing skills (includes a written essay requirement), social studies, science, literature and arts, and mathematics. A pre-test is used to evaluate performance levels and instructional needs before testing. GED classes are available on campus and at several off-campus locations. The classes are self-paced and allow students to progress at their own learning rates and on schedules which best suit individual needs. There are no charges for pre-testing or GED classes; there is a $7.50 fee for final GED Testing. For more information about GED Testing, call 342-6949.

E. ***Students who plan to complete grades 1-9:***

Adult Basic Education (ABE) is available for students whose schooling stopped short of the ninth grade. ABE provides instruction in basic reading and mathematics. Upon completion of the ABE program, students may enter the Adult High School Diploma program. There is no charge for these classes. For more information about ABE, call 704/342-6716.

F. ***Adult students who plan to learn basic skills in reading and mathematics:***

The ***Adult Basic Literacy Education (ABLE)*** program is located at community sites. This program offers a new approach for adults who cannot read, write, or calculate at an adult level. The program combines the use of microcomputers, video systems, audio tapes, specialized programming, and tutors to teach adults reading and mathematics skills. Instructors guide students through program materials and help with the use of equipment. There is no charge for ABLE instruction. For more information about ABLE, call 704/342-6716.

English as a Second Language is a program offering courses which enables students to master English as a second language. Students study the customs and traditions of American culture while learning the language. Academic and/or vocational courses may be taken when the student's language proficiency allows. Consult course descriptions with ESL or LEP prefixes. Call 704/342-6762 or 342-6716 for more information.

G. ***Students currently enrolled in Charlotte area high schools*** who want to take courses at CPCC. For information about the College Experience Program, the Concurrent Enrollment Program, and the Drop-Out Intervention Program, see Admissions Quick Reference on page 14.

H. ***Students who do not plan to enter a degree, diploma, or certificate program at CPCC and who want to take courses of special interest:***

1. Course descriptions in the back of this catalog list the prerequisites (requirements) that must be met before registering for a course. Please note that ENG 1504 (English Composition I) and certain mathematics courses require placement testing ***before*** registration. In these cases, contact the Admissions Center to schedule a placement test appointment (Terrell Building 2nd Floor, 704/342-6904).
2. Refer to the Academic Calendar for registration dates and availability of the CPCC Class Schedule, and register.

I. ***International Students:***

Legal residents with permanent visas (Alien Registration Card holders) are admitted to Central Piedmont Community College in the same manner as native citizens of the United States of America. Legal residents who need English As A Second Language are referred to the WMIX Building, 137 S. Kings Drive, 704/342-6014 for placement tests and assistance.

International visitors holding B-2 or other visas may enroll for classes of their choice as long as they hold a valid visa. (See paragraph H above.)

Alien students may obtain a Certificate of Eligibility (Form 1-20) from Central Piedmont Community College to enroll in degree/diploma programs if they meet admissions requirements, provided that the quota for that particular country is not filled. Any foreign national (non-immigrant) who is seeking admission to CPCC under an F-1 student visa is urged to purchase medical insurance prior to registration each Quarter. Applications for alien student enrollment at CPCC are available in the Office of the International Student Admissions, Terrell Building Room 222, 704/342-6609.

Attendance

Absences seriously disrupt a student's orderly progress in a course, and significantly diminish the quality of group interaction in class. There is also a close correlation between the number of absences and the final grade. Although an occasional absence may be unavoidable, it in no way excuses a student from meeting the requirements of the course. Students are still responsible for preparing all assignments for the next class and for completing work missed. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course, as well as authority to determine whether the student shall be reinstated.

Auditing Courses

A student auditing a course is expected to attend regularly, but may choose not to take examinations, and will not receive college credit. Each student must request audit status from the instructor at the first class meeting.

The extent to which an auditing student participates in class assignments will be decided by the student and the instructor. For tuition and fee purposes, an audit requires full course payment. A record of the audit shall be entered on the student's transcripts as AUD with no college credit given. It cannot later be converted to a letter grade. Procedures for registering or withdrawing from AUD courses are the same as for any other course.

Certain courses (such as First Aid or CPR) may be designated as inappropriate for audit.

Counseling Services

Counselors and support staff in the Counseling Services Department are available to provide information and assistance in the areas of high school articulation, admissions, GED testing, adult high school completion, orientation to the College and to programs of study, career counseling, international student processing, and graduation certification. In this regard, students may be scheduled with counselors on an individual basis or in groups.

Counselors at CPCC also provide personal counseling for students on a time-available basis. Students are referred to appropriate community agencies or resource persons when it is apparent they can be assisted more effectively in that way. Counselors are also available to the community as consultants.

Course Load

Students registered for at least 12 hours of credit are considered full-time students. Overload hours require permission from a program director, program counselor, department head, or assistant dean. The approved overload form must be presented when registering.

Overload levels are:

Career Programs	21 hours
Transfer Programs	20 hours
Associate in General Education	20 hours

Course Substitution

Course substitutions are permitted upon the recommendation of the department head and with approval of the dean.

Course Waiver

Course waivers are permitted upon the recommendation of the department head and with approval of the dean. No credit hours will be granted.

Credit By Examination

In order to receive credit by examination, a student must show convincing evidence of special aptitude or knowledge in the course material. A written, oral and/or performance examination will be developed and administered by an instructor of the course. The examination is subject to the approval of the department head. If the student achieves satisfactory performance on the examination, a grade of "X" will be recorded. The "X" grade carries no quality points, but credit hours will be given identical to the number of credit hours normally assigned to that course at Central Piedmont Community College.

Faculty Advisement

Students who are enrolled in a program will be advised by faculty advisers within the program. Students who are undecided or who have not signed up for a program will be advised by counselors. Students are encouraged to sign up for the program of their choice after completing 12 credit hours of coursework.

Grading Policy

Student Grade Point Average

Students are graded according to the following grade point system.

Grade	Point Value	Description
A	4	Excellent
B	3	Very Good
C	2	Satisfactory
D	1	Poor
F	0	Failed

The following grades will not be used in computing the grade point average:

I	Incomplete
W	Withdrawal
S	Satisfactory
U	Unsatisfactory
AUD	Audit
N	Never Attended
X	Credit by Examination

Example:

ENG 1504, 5 credits, Grade A = 4 points, 5 x 4 = 20
MAT 1504, 5 credits, Grade B = 3 points, 5 x 3 = 15
DFT 3405, 4 credits, Grade C = 2 points, 4 x 2 = 8
PRN 5200, 2 credits, Grade D = 1 point, 2 x 1 = 2
HPE 1101, 1 credit, Grade F = 0 points, 1 x 0 = 0

Total Credits 17 Total Points 45

Divide 45 points by 17 credits = 2.647 GPA (Grade Point Average).

Three GPA's will appear on the student's academic record: (1) cumulative GPA, (2) cumulative program GPA, (3) quarterly GPA.

A "W" (**Withdrawal**) will be assigned during the first two-thirds of a course if a student has been out of contact with the instructor for two consecutive weeks. The instructor may also assign a "W" at other times when circumstances warrant such action; and the instructor may reinstate the student. The student may also officially withdraw from a course prior to the last 14 calendar days of the quarter (short summer session, 7 days) by presenting a request to the Registration Center. A "W" will remain on the transcript and will not count as credit hours attempted.

An "I" (**Incomplete**) may be assigned when a student has persisted through the course and has completed at least 90% of the requirements for passing the course or in other extenuating circumstances as determined by the instructor. The student may have a maximum of two quarters to resolve an "I" grade unless the time period is otherwise specified by the department. When an "I" grade has been resolved, the final grade will be recorded beside the "I" (i.e. /B) and the GPA's will be recomputed. An "I" which is unresolved will be changed to the grade of " /F" after two quarters.

Excessive "I's," "F's" and "W's." A student will not be allowed to register for a course in which the student has received three "I's," "F's," and/or "W's" until receiving permission from the department of the course involved.

Repeated courses. Repeated courses will appear on the student's transcript. Each attempt will be shown, but the student's cumulative and progam GPA will be recomputed to count the last completed attempt only.

Standards of Academic Progress

For students seeking a degree/diploma/or certificate, certain standards of academic progress apply. These standards are designed to assist students in meeting their academic goals. These students must have a 2.0 GPA (Grade Point Average) in the curriculum required for a degree/diploma/certificate. In addition, for students enrolled in certain programs, a grade of C or better in certain courses may be required in order to receive a degree/diploma/certificate from Central Piedmont Community College.

Academic Assistance. Students who are enrolled in a program and whose quarterly GPA falls below 2.0, or who have not received credit for at least one half (50 percent) of the hours for which they have registered in a given quarter (due to I's, F's, and W's), will receive a letter informing them that they must make arrangements to consult with an adviser.

Academic Intervention. Students whose cumulative program GPA falls below the following categories will be placed on academic intervention. While on academic intervention, students will be limited to registering for the number of hours approved in writing by an adviser. Students may be required to register for special assistance courses.

2-Year Degree Program Category

1. 0-30 credit hours attemped	1.50 GPA
2. 31-60 credit hours attemped	1.75 GPA
3. 61-75 credit hours attempted	1.90 GPA
4. 76+ credit hours attempted	2.00 GPA

1-Year Program Category

1. 0-15 credit hours attemped	1.50 GPA
2. 16-30 credit hours attemped	1.75 GPA
3. 31-45 credit hours attempted	1.90 GPA
4. 46+ credit hours attempted	2.00 GPA

Students in certificate programs will be placed on intervention when the cumulative program GPA falls below 2.0.

Academic Suspension. Students who do not raise their cumulative program GPA to the required level within the first two quarters in which they are actually enrolled, following a notice of academic intervention, will be placed on **academic suspension**. Students on academic suspension will be ineligible to enroll for college credit classes for one quarter. Academic suspension may be appealed to the appropriate academic dean.

Changing Grades

Grade changes can be made by the instructor of record or, in extenuating circumstances, by the appropriate department head or program director.

Plagiarism

When students use another person's work, words, or ideas without properly acknowledging the source, they are plagiarizing and are subject to the discipline of the instructor. Possible actions open to the instructor are to dismiss from class and assign "F", re-admit to class conditionally, or re-admit to class unconditionally.

Registration

Registration dates are published in the Academic Calendar and in the quarterly Class Schedules.

The College year consists of four quarters: Fall, Winter, and Spring quarters (11 weeks) and Summer quarter (9 weeks). The Summer quarter is considered the same as other quarters where course offerings are concerned, and also includes a short session (5 weeks) for a limited selection of classes. Students are encouraged to register as early as possible to avoid the inevitable delays of final registration and to increase the probability of obtaining the schedule of classes which best meets their needs.

Students may conveniently register from a touch-tone phone or in person. Registration centers are located on campus and at the Matthews, North, Pineville, and West Area Learning Centers. Those wishing to register by phone will find instructions in the Class Schedule published each quarter. Selected classes offer the option of registering in class.

Welcome Center

As a first point of contact for new arrivals on campus and as a central location where students can receive answers and directions, the Welcome Center radiates a relaxed, inviting atmosphere in its decor and in the friendliness of its personnel. On the second floor of the Garinger Building and adjacent to a ramp, the Center is fully accessible to everyone. Beginning operations at 7:30 a.m., the Center is open on Saturday mornings and every evening except Friday. For assistance or further information, call 704/342-6719.

Repeating Successfully Completed Courses

Students must obtain departmental approval before enrolling in a course which they have already successfully repeated twice. HPE courses, however, may not be repeated after one successful completion. Self-supporting classes (Corporate/Continuing Education, for example), on the other hand, may be repeated any number of times.

Schedule Adjustment and Drop/Add

Students may make schedule adjustments throughout the announced registration period. A special schedule adjustment week following the close of the registration period provides an opportunity for students PREVIOUSLY REGISTERED to make required adjustments to their schedules. Classes may be dropped for a refund of tuition. *(NOTE: See Refund Policy) Exception:* Tuition will not be refunded for self-supporting classes or classes numbered 7000-8000.

During the schedule adjustment period, students may add a class only to replace a class dropped because of class cancellation or an error made in preparing their schedule. During the schedule adjustment period, students may switch class sections (i.e., classes) without obtaining written permission provided the new class section is not filled. Should a student make an error in registering for a class (i.e., register for a math class that is too advanced), an adjustment to correct the error may be made if department head approval is obtained. Such approval must be in writing and specify the error made, as well as the change required to correct it.
NOTE: See Refund Policy.

Student Conduct

College students are considered to be mature individuals. Their conduct, both in and out of the College, is expected to be that of any respectable adult in a public place. Under these circumstances, it is expected that students will remember that they are in a democratic situation and that the reputation of the institution rests on their shoulders. Common courtesy and cooperation make a long list of rules unnecessary.

However, students should note that the possession, consumption, or distribution of alcohol or illicit drugs, or possession of firearms on campus or at any CPCC instructional site is specifically prohibited and regulated by State statute. Violators will be prosecuted by civil authorities.

Failure to meet standards of conduct acceptable to the College may result in disciplinary suspension. The procedure stated below will be followed when disciplinary action against a student is being considered:

1. The student will be informed of the charges against him/her both in writing and in conference with the Dean for Student Development or representative.
2. The student will be advised of the date, time, location, and procedures of the meeting in which the charges will be presented.
3. The Dean for Student Development has the right to suspend a student temporarily until the hearing process can be completed.
4. The charges will be described and examined at a meeting of the accusers, the student, the Dean for Student Development or representative, advisers, and assistants that either party wishes to bring. The Dean for Student Development must be notified within two days of the hearing regarding anyone other than the principal parties who will be attending.
5. The Dean for Student Development will have two days following the hearing to consult again with all parties, as may be necessary, and render a decision.

6. This decision may be appealed to the Vice President of Education and the President of the College.
7. A student who is dismissed must apply to the Dean for Student Development before readmission can be approved.

Student Grievance Procedure

Students wishing to appeal any decision affecting their status at Central Piedmont Community College should first appeal to the instructor or staff member making the decision. If students are not satisfied and the problem involves a program matter, appeal may be made through the appropriate curriculum department head to the program Dean and the President. Non-program matters follow the same route except through the Dean for Student Development rather than a program Dean. All such appeals should be in writing and state the basic facts of the case.

A grievance related to discrimination should first be presented to the appropriate compliance officer. Grievances related to Section 504 of the Rehabilitation Act of 1973 should contact the Director of Special Services (Terrell Building, fifth floor); for Title IX, the Personnel Director (Terrell Building, fourth floor).

Student Records (Transcripts)

The College maintains the position that students' records are their own property; therefore, this information is released only when a student signs a Records Release Form in the Office of Student Records (Terrell Building Room 200). Students may have copies of their transcripts sent to any institutions or individuals they choose. They may also order copies for their own use. The first two copies are free; $1.00 is charged for each additional copy.

Policies and Procedures:

Central Piedmont Community College, in the fulfillment of its responsibilities to students, must maintain accurate and confidential student records. The College staff must recognize the rights of students to have access to their academic and personal records in accord with existing College policy and the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

Definition of Term "Educational Records":

These regulations, as defined under the provisions of the Family Educational Rights and Privacy Act of 1974, include files, documents, and other materials which contain information directly related to students and which are maintained by an educational institution or by an authority on behalf of the institution. The term "educational record," under the provisions of the law, does not include the following:

1. Records of institutional, supervisory and administrative personnel which are in the sole possession of the maker and which are not accessible or revealed to any other person except a substitute for the above named personnel;
2. Records and documents of Security Officers of the institution which are kept apart from such educational records;
3. Records on students which are made or maintained by a physician, psychiatrist, psychologist, counselor, or other recognized professional or paraprofessional acting in their official capacity and which are made, maintained, or used only in connection with a provision for treatment for the student and are not available to anyone other than the persons providing such treatment, except that such records can be personally reviewed by a physician or other appropriate professional of a given student's choice;
4. Financial records of the parents of the students or other information therein contained;
5. Confidential recommendations if a given student has signed a waiver of the student's rights of access, provided such a waiver ***may not*** be required of the student; and
6. Confidential letters or statements of recommendation which were placed in educational records prior to January 1, 1975, if such records or statements are not used for purposes other than those for which they were specifically intended.

Control Provisions on Student Records and Student Information:

1. Transcripts and other information are released only with written permission of the student. When information other than the transcript is released from the student's official record (Office of Student Records), the student will receive a copy of the release.
2. Students have the right to inspect their own records whether recorded in hard copy form or recorded in the form of magnetic disks and microfilm. Upon inspection, students are entitled to an explanation of any information contained in their records.
3. The official student file shall not be sent outside the Counseling Office, Records Office, Admissions Center, Financial Aid Office, Veteran and Military Affairs Office, or other custodial office except in circumstances specifically authorized by the appropriate Dean. The authorization for such special circumstances must be in writing.

Release of Student's Educational Records to Educational Institutions, State and Federal Agencies:

1. Such requests for confidential information shall not be honored without proper written consent by the student for the release of such records by the student except under conditions indicated in paragraphs 2 and 5 below.
   a. The written consent must specify the records or the specific data to be released, to whom they are to be released, and the reasons for release.
   b. Each request for consent must be specific, and each request must be handled separately.
2. Request for confidential information will be honored without prior consent of the student in connection with an emergency, if the knowledge of such information by appropriate persons is necessary (in view of a reasonable person) to protect the health or safety of the student or other persons. However, such a release shall have the approval of a Cabinet Officer unless it can be shown that, under the circumstances, time would not permit or that no Cabinet Officer was available.
3. The following "Directory Information" may be made available to the public by the College unless students notify the Dean for Student Development in writing, by the third week of the quarter, that such information concerning themselves is not to be made available:
   a. Student's name and hometown;
   b. Major field of study or program;
   c. Dates of attendance, degrees, diplomas or awards received and the most recent previous educational institution; and
   d. Place of birth.
4. Information Other than "Directory Information"— Any release of student information for public use or use by the media except that designated above (paragraph 3) must have prior written approval by the students involved.
5. Disclosure to Government Agencies—Properly identified and authorized representatives of or bona fide written requests from the Comptroller General of the United States, the Secretary of Health, Education and Welfare, an administrative head of a federal education agency, or state educational authorities may have access to student or other records which may be necessary in connection with the audit and evaluation of federal or state supported educational programs or in connection with the enforcement of the federal or legal requirements which relate to such programs. Routine requests for student data from such agencies as HEW, OEO, research agencies, and state reporting agencies may be honored without prior approval of the student only in formats where students are not identified.
6. Faculty and administrative officers of the College who demonstrate a legitimate educational need will be permitted to look at the official student file for a particular student.
7. Confidential information requested by other than federal or state agencies as specified in paragraph 5 above will be released only under the following conditions:
   a. An official order of a court of competent jurisdiction, or
   b. Subpoena (Students will be notified immediately by registered mail that their records are being subpoenaed.)
8. Record of Who Has Access—A record of access to the official student file will be maintained within the file itself. This record will show the ***name, address, date and purpose*** of the person who has been granted access. All persons who have access will be included in this record except those institutional employees who, because of the nature of their duties, have been granted access.

Students' Rights to Question Content of Their Official Student Files:

1. Students have the right to review their official records maintained by the College. Furthermore, students may question any inaccurate or misleading information and request correction or deletion of such data from their files.
2. All such requests will be sent to the Supervisor of Student Records and will become a part of that student's file.
3. All requests for correction of a student file will be acted upon within 45 days of receipt of the request. If the custodian can verify that such data are, in fact, in error, appropriate corrections will be made and the student will be notified in writing when the correction has been completed. If an error cannot be readily substantiated, the request will be referred to an Ad Hoc Hearing Committee appointed by the Dean for Student Development.

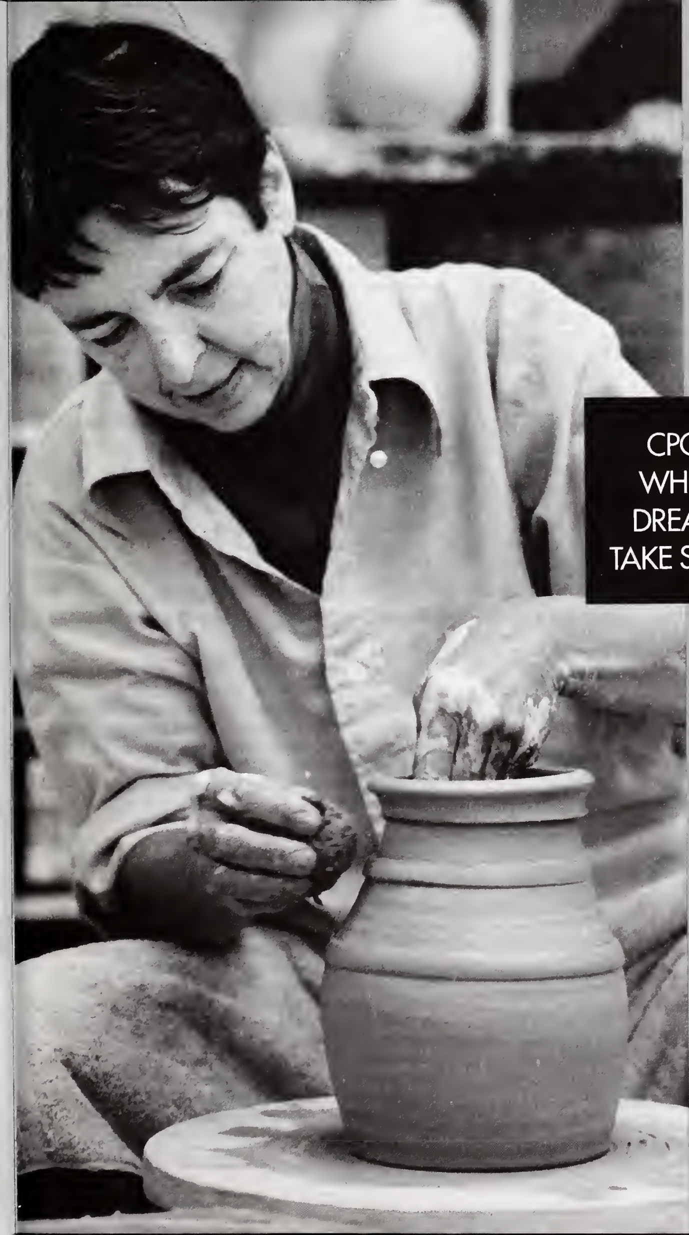
   After a student has had the opportunity to present the case to the hearing committee, the committee will render a decision in writing stating the reasons for its decision. If the decision is in agreement with the student's request, the student will be permitted to review the file to verify that the change has been made correctly. If the student's request is denied, the student will be permitted to append a statement to the record in question, showing the basis for the disagreement with the denial. Such appendages will become a permanent part of the record.

Annual Notice to Students of Their Rights Under Family Educational Rights and Privacy Act of 1974:

The College policy on access to and release of student information will be made available to students, faculty, and staff. This information will be placed in the College Catalog.

Tour, Campus (Students)

We encourage you or your group to visit the campus for a guided tour. It is a good way for you to see for yourself what CPCC is all about. To arrange tours, call Student Activities, 704/342-6584. As appropriate, we will arrange for faculty members to explain their departments to you, so tell us your special interest when you call. If you are already on campus or not in a group, call us and we will do our best to arrange for a Student Activities guide.



CPCC:
WHERE
DREAMS
TAKE SHAPE

INSTRUCTION PROGRAMS

Instructional Programs

Degrees/Diplomas/Certificates

Associate in Applied Science Degree (A.A.S.)

These programs offer business, health-related, and public service courses, as well as courses in engineering and other technologies. These courses are designed to enable graduates to enter occupations with marketable skills, a high level of competency, and the ability to communicate effectively. Highly specialized courses, combined with general education courses, enable students to be effective members of society. The following programs are available: Accounting; Administrative Office Technology; Air Conditioning, Heating and Refrigeration Technology; Air Conditioning and Heating Service Technician; Architectural Technology; Automotive Service Technician; Automotive Technology; Banking and Finance; Bookkeeping/Clerical; Business Administration; Civil Engineering Technology; Commercial Art/Advertising Design; Computer Engineering Technology; Computer Programming, Business; Correctional and Juvenile Services; Dental Hygiene; Early Childhood Associate; Electrical Engineering Technology; Electronics Engineering Technology; Fashion Merchandising; Fire Protection Technology; Food Service Management (Chef Training); Graphic Arts Management; Horticulture Technology; Hospitality/Tourism Specialty Technology; Hotel/Restaurant Management; Industrial Management; Industrial Safety, Security and Health Management Technology; Insurance; Interior Design; International Business; Interpreter Training Associate; Law Enforcement Technology; Manufacturing Engineering Technology; Marketing and Retailing; Mechanical Engineering Technology; Medical Assisting Technology; Medical Office Technology; Medical Records; Nursing-Associate; Paralegal Technology; Physical Therapist Assistant; Postal Service Technology; Real Estate; Recreation Associate; Respiratory Care Technology; Secretary-Executive; Secretary- General Office; Secretary-Legal; Secretary-Medical; Social Services Associate; Surveying Technology; Traffic and Transportation; Travel and Tourism Technology.

Associate in Arts Degree (A.A.)

The purpose of this program is to provide courses in liberal arts and pre-professional areas which will enable students to enter as juniors at four-year institutions of their choice. While the liberal arts program outlined in the graduation section of this catalog (page xx) will satisfy the requirements of most senior institutions, it is the responsibility of all college transfer students to identify, as early as possible, the institutions to which they will apply for transfer, in order to determine the specific requirements of those institutions for the freshman and sophomore years. Each student's sequence of courses should be planned by the student and program counselor or faculty adviser with a specific four-year institution in mind.

Associate in Fine Arts Degree (A.F.A.)

This program offers courses in dance, fine arts, and music so that students can declare a major in one of these areas. It will prepare students to enter as juniors at four-year institutions. Each student's sequence of courses should be planned by the student and a program counselor or faculty adviser, with a specific four-year institution in mind.

Associate in Science Degree (A.S.)

The Associate in Science Degree is awarded for study leading to majors in science, mathematics, engineering, and computer science. Students are eligible for the degree upon completion of the requirements outlined in the graduation section of this catalog (page xx). Each student's sequence of courses should be planned by the student and a program counselor or faculty adviser, with a specific four-year institution in mind.

Associate in General Education Degree (A.G.E.)

The Degree of Associate in General Education is designed for persons who want to develop a program of study to meet their special needs. Candidates for this degree may present credit courses taken in the Associate in Arts program, the Associate in Fine Arts program, the Associate in Applied Science program, the diploma programs, credit courses in the Advancement Studies Department, C.L.E.P., or any combination of these. A.G.E. students may enroll in any program for any course in which they can meet prerequisites. The requirements for this degree are outlined in the graduation section of this catalog (page xx).

Diploma

Diploma programs offer courses designed to meet the ever-increasing need of our complex society for skilled craftsworkers. Graduates earning a diploma should enter employment with a high degree of manipulative skill. Graduates also gain knowledge of basic mathematics, science, and communications. The following curricula are available: Air Conditioning, Heating and Refrigeration; Automotive Body Repair; Automotive Mechanics; Computer Operations; Dental Assisting; Diesel Vehicle Maintenance; Electrical Installation and Maintenance; Food Service Specialist (Chef Training); Graphic Arts (Printing); Horticulture; Machinist; Mechanical Drafting; Medical Assisting; Nursing-Practical; Piano Tuning and Repair; Welding.

Certificate

The purpose of Certificate programs is to provide special study in health-related and career-oriented fields. The following Certificate curricula are available: Data Entry Operations; Early Childhood; Hospital Ward Secretary; Insurance; Medical Transcription; Nursing Assistant; Pharmacy Technology, and Real Estate.

Basic Studies/Preparatory Programs

Advancement Studies

Advancement Studies is a program for students who have not reached mastery level in English, reading, mathematics, biology, chemistry, writing skills, or study skills.

The Advancement Studies Department's philosophy is that each student has unique educational needs and goals. Once these goals are identified, they can best be reached by allowing students to progress in an open, caring atmosphere.

Each course in the Advancement Studies Departments has stated objectives and a system to help each student accomplish those objectives. Instructors coordinate each learning segment.

For a complete description of courses, see BIO, CEM, CHM, DEN, DRG, EDU, ENG, GEN, MAT, PTL, and RDN within the 9000 series in the course description section of this catalog.

For Advancement Studies information, call 704/342-6702 or 342-6907.

Adult Basic Literacy Education (ABLE)

ABLE is a literacy program which offers an innovative approach for adults who cannot read, write, or calculate at an adult level. The program combines the use of microcomputers, video systems, audio tapes, and specialized programming to teach adults reading and math skills below a ninth grade level. Instructors and tutors work one-on-one or in small groups to guide students through program materials and help with use of the equipment. Instruction in the ABLE program is free for adults 18 years or over. The ABLE program seeks to combat adult illiteracy by amassing an array of educational media and teaching techniques in one location. The ABLE method speeds the educational process of adult non-readers and enhances their chances for success.

For ABLE information, call 704/342-6971.

Adult Basic Education (ABE)

Adult Basic Education offers scheduled classes on the main campus and at many community locations to provide learning experiences which meet the basic education needs of adults in Mecklenburg County. The ABE course is designed to provide learning experiences for adults 18 years old and older whose educational achievement is less than ninth grade, with special emphasis on those adults whose achievement is less than fifth grade. The ABE course also provides experiences which are intended to meet social and personal needs of adult students. The ABE curriculum is a comprehensive curriculum which takes cognizance of the diversity of needs, interests, abilities, and desires of participating adults. Included in the curriculum are the communicative skills of reading, writing, listening, and speaking. Also included with equal emphasis are arithmetic, social studies, health and hygiene, elementary science, consumer education, and other areas of interest to the students.

For ABE information, call 704/342-6716.

Limited English Proficient (LEP)

LEP/ABE is a component of Adult Basic Education with its goals and the additional objective of teaching English to students who have Limited English Proficiency. Courses are designed to emphasize survival language skills and acculturation at the beginning levels, and to provide an integrated continuum to higher level skills. The curriculum is flexible and reflects the needs of the students. Classes meet on campus and at a variety of locations throughout the community.

LEP/Amnesty classes are specifically designed to meet the Immigration Reform and Control Act (IRCA) requirements, and to prepare applicants for permanent residency and citizenship. These classes are also offered at a variety of locations and times.

For more information, call 704/342-6716.

Compensatory Education Program

The Compensatory Education Program offers classes in math, community living skills, reading, health, social science, consumer education, and vocational education. The program is designed to assist students in gaining as high a level of independence and self-sufficiency as possible.

To be eligible for the program, students must be at least 18 years of age and have documented evidence of a disability that affects learning according to the North Carolina program guidelines.

Classes are scheduled quarterly at community agencies, other community sites, and the CPCC campus whenever six or more persons are interested in enrollment. Both day and evening classes can be arranged. Classes are free.

For more information, call the program director at 704/342-6033.

English As A Second Language

The English and Foreign Languages Department offers courses which enable students to master English as a second language. Students study the customs and traditions of American culture while learning the language. Students will have the opportunity to take other academic and/or vocational courses when their language proficiency allows.

English as a Second Language courses are found in the course description section of this catalog under ESL. For a suggested sequence of courses by quarter, go to the Department, Sloan Building, Suite F, or call 704/342-6762.

General Educational Development (GED)

The GED offers another route for students who have not completed high school. A State high school credential is issued by the North Carolina State Board of Education after a student passes five individual tests in writing skills (written essay), mathematics, science, social studies, and literature. A pre-test is used to indicate performance levels and provide the basis for assistance. CPCC offers GED classes on campus, as well as in off-campus centers. These classes are self-paced, and allow students to progress at their own learning rates and on schedules which best suit their needs. There is no charge for the pre-test or for the classes; a $7.50 fee is charged for the tests.

For more information about GED, call 704/342-6949.

High School Diploma, Adult (HSD)

The Adult High School Diploma program leads to an earned diploma granted by the Charlotte/Mecklenburg Board of Education. For graduation, the Board requires four units of English, two units of mathematics, two units of American and world history, one unit of biology, two units of other sciences, and a passing score on the North Carolina Competency Test. Students who have not met each of those requirements enroll for at least one quarter of study in appropriate areas. After one quarter, a standardized or teacher-made test is given. A satisfactory test score earns credit toward graduation for that entire subject. There is no charge for these classes.

For HSD information, call 704/342-6864 or 342-6688.

Charlotte Area High School Students at CPCC

Two programs enable students in Charlotte area high schools to take courses at CPCC:

The Concurrent Enrollment Program enables qualified students, who are at least 16 years of age and who are enrolled in Charlotte area high schools, to take courses at CPCC for remedial purposes, personal enrichment, or high school or college credit. High school credit for courses taken under Concurrent Enrollment must be specifically approved by the high school principal.

Concurrent Enrollment forms may be obtained at high schools, or by request from the Concurrent Enrollment Counselor's Office on campus (telephone 342-6975). Students enrolling in this program must present the signed and approved Concurrent Enrollment form at the time of registration at CPCC..

Concurrent Enrollment students are regarded by CPCC as any other college student and receive identical treatment. Grade reports are mailed directly to students following the close of each quarter. Copies of students' transcripts are available through the Office of Student Records (Terrell Administration Building, Room 200, telephone 342-6959). For additional information, call 342-6975.

The College Experience Program provides Charlotte-Mecklenburg School System high school seniors a head start on a college education, advanced vocational preparation, and personal enrichment opportunities. Approved CPCC courses may be taken by students during their senior year as a part of the school day. Courses are taken on the CPCC campus and may earn both high school and college credit.

College Experience students are regarded by CPCC as any other college student and receive identical treatment. Grade reports are mailed to students and the high school following the close of each quarter. Copies of students' transcripts are available through the Office of Student Records (Terrell Administration Building, Room 200, telephone 342-6959).

For additional information, call 342-6975.

Dropout Intervention Services identifies and contacts high school dropouts to reinforce their understandings of the critical importance of education. Students are assisted in selecting a direction and urged to resume their education. Individuals are referred directly to area resources which can provide a diverse range of assistance, including not only educational programs but human services support as well. High school dropouts are returned directly to public school or to one of several alternative programs leading to completion of at least a high school education or equivalent. Counseling activity also helps students with special needs.

For additional information, call 704/342-6536.

Consortium—Charlotte Area (Students Attending Area Colleges and Universities)

CPCC is a member of the Charlotte Area Educational Consortium, along with 10 other area colleges and universities, and participates in a wide variety of Consortium activities including a cross-registration program that enables students to take at other colleges certain courses not offered at CPCC. Information is available by calling 704/342-6484.

Instructional Telecommunications

Instructional Telecommunications offers educational opportunities through non-traditional modes of education, *i.e.,* TV, radio, computers, and newspapers. Through these media, Instructional Telecommunications seeks to provide quality courses for persons from varied socio-economic backgrounds. It encompasses a number of teaching devices, strategies, methods, and course objectives which can reach a greater number of students. Instructional Telecommunications embodies the belief that technological equipment and systems are available to make learning more accessible to mid-career adults, homemakers, homebound and/or physically impaired persons who do not find the main campus or Area Learning Centers readily accessible.

Television and radio courses carry college credit for students who register, who meet a required number of times with the instructor, and who pass required exams given in the Testing Center on campus or in off-campus Learning Centers. The only difference from traditional courses is that students view and hear lectures at home. Cost for courses through the Instructional Telecommunications Program is the same as for traditional courses.

Because television, radio, and newspapers reach such large audiences and because there are fewer limits on numbers of students based on classroom size, Instructional Telecommunications courses have the potential to be the most flexible of instruction available.

For more information, call 704/342-6943.

Short Summer Session

Short Summer Session allows students from other colleges and universities to take transfer and other courses during their summer vacations. High school graduates can begin their college careers in these four-week concentrated sessions prior to beginning the Fall term at CPCC or transferring to another school. Students who are currently enrolled in high school can participate in CPCC's Concurrent Enrollment Program during Short Summer Sessions, as well as during other quarters.

For more information, call the Welcome Center, 704/342-6719.

Weekend College

Weekend courses offer a variety of topics and workshops each quarter, and essentially fall into two formats: classes which meet on Saturdays for an 11-week period; and classes which meet on Friday evenings and Saturdays for fewer than 11 weeks (usually three to five weeks, depending on subject matter).

For more information, call the Welcome Center, 704/342-6719.

CPCC:
MAKE YOUR
DOLLARS
COUNT

TUITION/FEES/FINANCIAL AID

Tuition/Fees/Financial Aid

Tuition charges are set by the North Carolina State Board of Community Colleges and are subject to change without notice. For current cost, phone the Welcome Center, 342-6719.

Tuition

For ***in-state students*** registered for credit courses, tuition and fees are as follows:

Students enrolled for 12 quarter hours or more—$90.00 per quarter. Students enrolled for fewer than 12 hours—$7.50 per quarter hour.

Non-credit courses in Corporate and Continuing Education are charged a nominal registration fee. There is no charge for individuals taking extension courses leading to a high school diploma or its equivalent. Self-supporting courses are charged at the rate of $1.25 per contact hour.

Out-of-state students will pay tuition each quarter as described below:

Students enrolled for 12 quarter hours or more—$840.00 per quarter. Students enrolled for fewer than 12 hours—$70.00 per quarter hour.

****Tuition and the Student Publication Activity Fee*** ($2.00) must be paid the same day you register with cash, check, or credit card (Visa or MasterCard).

*Fee

The Student Publications and Activity fee is $2.00 per student per quarter. This fee is used to support the Student Activities Center and many co-curricular and extra-curricular programs. Among these are student government, student publications, clubs and organizations, intramural and intercollegiate athletics, educational activities, and campus entertainment.

Student Insurance (Optional)

CPCC has approved an ***Accident Medical Plan*** for students. The plan insures students against loss resulting from accidental bodily injuries sustained while on campus or while participating in or attending an activity exclusively organized, sponsored, and solely supervised by the College and College employees, including travel directly to or from such activity in a vehicle furnished by the College.

The plan pays the cost of medical and surgical treatment, including hospital confinement and the service of a trained nurse, for such treatment incurred within one year from the date of accident, up to $1,500 for each accident.

Coverage begins at the time tuition and the $1.35 insurance fees are paid at registration. Coverage ends at the end of that quarter.

CPCC provides a ***Medical Hospitalization Group*** Plan for all students enrolled for six or more credit hours. The plan pays the cost of accidental death benefits, maternity benefits, semi-private room, and major medical coverage up to $3,500. Benefits will be paid in addition to other insurance students may have. Spouses and unmarried children may be covered for an additional cost. Effective date of coverage is the day the premium is received by the company. The cost is $44.00 per quarter or $169.00 per year.

Tuition Refund Policy

Students will have their entire tuition refunded if they withdraw from class(es) before the end of the schedule adjustment period. ***Exceptions:*** Tuition will not be refunded for self-supporting classes or classes numbered 7000-8000.

Two-thirds of a student's tuition will be refunded if the refund is more than $5.00 and the student totally withdraws from the College by the 10th calendar day after the first day of classes. ***Exceptions:*** Tuition will not be refunded for self-supporting classes or classes numbered 7000-8000.

If students withdraw from a class(es) after the 10th calendar day following the first day of classes, no refund will be given.

If a class is cancelled by the College, tuition will automatically be refunded by mail on a proportionate basis through the Business Office.

Residence Status

A legal resident of North Carolina is one who has domicile in the State. It is important that all applicants for admission and all enrolled students know their residence status for tuition payment and understand the regulations governing status. The "Student Residence Manual" is available for review in the Office of Student Records (TE 200). The following regulations cover most situations:

1. Persons 18 years of age or older are not deemed eligible for the lower tuition rate unless they have maintained legal residence in North Carolina for at least the twelve months preceding the date of their enrollment in an institution of higher education in this State.

2. The legal residence of a person under 18 years of age at the time of enrollment in an institution of higher education in this State is that of the student's parents, surviving parent or legal guardian. If the parents are divorced or legally separated, the legal resi-

dence of the minor is that of the parent to whom legal custody has been awarded.

3. The residence status of all students is determined as of the time of their enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (a) in the case of a non-resident minor student at the time of enrollment whose parents have subsequently established legal residence in North Carolina; (b) in the case of a resident who abandons legal residence in North Carolina; and (c) in the case of a non-resident student at the time of enrollment who has established legal residence in North Carolina and has maintained that status for the preceding twelve months. ***Please note:*** Students previously classified as non-resident who feel they now meet the residence requirements must contact the Supervisor of Student Records for approval and for completion of the proper change of residence form. (342-6959, Terrell 200)

4. Aliens who have been lawfully admitted to the United States for permanent residence in North Carolina, according to the above paragraphs, are eligible for the lower tuition rate. A person holding a student visa cannot be classified as a resident for tuition purposes.

Foreign nationals holding an Alien Registration Card (Form I-151) and other foreign non-immigrants holding work permits (Visas A, E, G, I, K or L-1), as well as Southeast Asian Refugees, may be eligible for in-State tuition twelve months or more after their visa was issued. In these cases, they must provide documenting evidence that they have lived in North Carolina for at least 12 consecutive months (i.e., a statement from a telephone company indicating that they have had a telephone in their name at the place of residence for at least 12 months, a statement from their employer that they have lived and worked in North Carolina for at least 12 months, or other acceptable documentation).

5. Ownership of property in or payment of taxes to the State of North Carolina apart from legal ownership will not in itself qualify a person for the lower tuition.

6. Any students or prospective students who have reason to believe they have been classified incorrectly for higher tuition must bear the responsibility for securing a ruling by stating their case in writing to the Supervisor of Student Records or the Supervisor of Registration. Written request for a ruling shall be reviewed by the Dean for Student Development who may contact the student in order to secure additional information. Upon receipt of this ruling (if unfavorable), the student may appeal to the College Appeals Committee by making written request to the Supervisor of Student Records and completing the Residency Questionnaire as prescribed by the "Student Residency Manual." A final residentiary decision by the College may be appealed to the State Residence Committee.

Financial Aid: Procedures

Students who are enrolled or accepted for enrollment in at least a six-month program leading to a certificate, diploma, or degree may apply for financial assistance. Individuals who are not U.S. citizens or who are non-permanent residents are generally not eligible to receive financial aid. Check with the Financial Aid Office for determination of eligibility.

In considering an applicant for aid, the student's entire living expenses are taken into account, in addition to tuition and book costs. Students taking fewer than 12 credit hours but at least six credit hours may receive aid reduced in proportion to their academic load. Awards generally range from $400 to $7,000 per year and come from one or more of the following sources: Pell Grants, The College Work-Study Program, Local Scholarships, North Carolina Student Incentive Grants, Supplemental Educational Opportunity Grants (SEOG), Guaranteed Student Loans, Perkin's Loans, and Emergency Short-Term Loans.

Pell Grants and employment through the College Work-Study Program comprise the majority of aid awarded to students.

Because Central Piedmont Community College defines its academic year as 12 months, financial aid awards are made on that basis. Students are encouraged (in some cases required) to attend consecutive quarters until the program of study is completed in order to remain in proper sequence. The Summer quarter is a full quarter with no significant reduction in course offerings and is not regarded to be "optional", as summer periods often are at traditional institutions.

For more detailed information about the types of aid available, eligibility, application procedures and policies, refer to the ***Student Financial Aid*** brochure, available from the Financial Aid Office upon request. This office is located on the fifth floor of the Terrell Building. Telephone 704/342-6942.

Satisfactory Progress Standard

To remain eligible to receive Title IV financial aid funds, students must meet the College definition of SATISFACTORY PROGRESS. This definition reads: ***"Satisfactory Progress is defined as the satisfactory completion (grades of "C" or higher) of either a minimum of six credit hours per quarter or 50% of the credit hours carried (whichever is less) within the number of quarters derived by dividing the total credit hours required for graduation by six credit hours."***

Any quarter during which a student receives financial aid shall be counted, including previous quarters in which no aid was received. At the end of the number of quarters derived from the calculation above, all financial aid will be discontinued. Course withdrawals, incomplete grades, and repeated courses count adversely in the calculations. Students who change programs will assume the time limit calculated for the new program, minus the number of quarters already attended. Work transferred from other institutions is not considered in CPCC's definition of Satisfactory Progress. Students with extenuating circumstances may appeal as outlined below. This revised policy became effective July 1, 1987. This definition affects only eligibility for financial aid and is not applicable for purposes of continued enrollment in a program, since such determinations will be made by the College in accord with institution policy.

Satisfactory Progress Procedure

Step 1: Warning

If students fail to meet the requirements set forth under the Satisfactory Progress Policy definition during their first quarter of receiving financial aid, they will be warned of this progress and officially notified of their status.

Step 2: Probation

If students fail to bring their status up to the requirements set forth in the Satisfactory Progress Policy definition within the next quarter, consecutive or otherwise, they will immediately be placed on probation and notified of their status.

Step 3: Suspension of Financial Aid

If students fail to complete the necessary requirements set forth in the Satisfactory Progress Policy definition after completing three quarters consecutive or otherwise, their financial aid will be suspended.

Appeal Process

Students who fail to meet the definition of the Satisfactory Progress Policy and/or other related policies and have extenuating circumstances may appeal to the Financial Aid Committee for reinstatement of financial aid. The appeal must be in writing and will be voted on at a regularly scheduled meeting. Documentation must be included with the appeal. An example of an acceptable appeal would be hospitalization of the student or death of an immediate family member.

Reinstatement of Aid After Suspension

If a student attends one quarter of classes while suspended from financial aid and makes satisfactory progress according to the definition, terms and conditions set forth in this policy, the Pell Grant will automatically be reinstated at the end of that quarter. (The student's status will remain under probation if the committee approves the appeal.)

THIS POLICY IS SUBJECT TO CHANGE BASED ON INSTITUTIONAL AND FEDERAL GUIDLELINES. IF ADDITIONAL INFORMATION REGARDING THIS POLICY IS NEEDED, PLEASE CONTACT THE FINANCIAL AID OFFICE.

Verification

Institutions participating in Title IV funds for financial aid are required by federal mandate (Higher Educational Amendments of 1986) to check information that some students give on their applications. More information on this requirement is available from the Financial Aid Office upon request.

Financial Aid: Sources

Pell Grants

The Pell Grant Program provides federal funds for qualified students enrolling at least half-time in a program which is at least six months long in an eligible institution of higher education. The grants, which do not have to be repaid, are based on schedules and formulae approved by Congress annually. The maximum grant at Central Piedmont Community College is approximately $1,600 per year for in-State residents and $2,300 for out-of-State residents. Students with Bachelor's degrees are not eligible.

College Work-Study Program

A major form of financial aid available to students consists of employment through the College under the Federal College Work-Study Program. A schedule is arranged so that students work part-time around their classes either on-campus, at Area Learning Centers, or at a non-profit agency in the Charlotte-Mecklenburg area. The hourly pay rate is equal to at least the Federal minimum wage, and the average number of hours students may work generally does not exceed 20 per week. Through this program, it is possible to earn up to $3,500 per year.

Job Location and Development Program

This program, located in the Financial Aid Office, provides a staff member who develops and locates full- and part-time jobs in the community for students who need to work to support themselves while attending CPCC. Students do not have to meet any federal financial need criteria to use this service.

Supplemental Educational Opportunity Grants

The Supplemental Educational Opportunity Grant Program provides gift aid to students with demonstrated financial need. The amount of the grant is based upon the applicant's need and availability of funds at the College, and generally averages $400 per year. These grants do not have to be repaid. Students with Bachelor's degrees are not eligible.

North Carolina Student Incentive Grants

Legal residents of North Carolina accepted for enrollment or enrolled full-time, in good standing, in an undergraduate program of study in an eligible college, university, technical or vocational school in North Carolina may apply for Student Incentive Grants to help pay their educational expenses. Students must demonstrate "substantial financial need" as determined through the need analysis system of either the College Scholarship Service or American College Testing Program. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education but may not exceed $800 per academic year. Students must apply before March 1. This grant is not available during the Summer quarter.

Scholarships

Students do not usually apply for specific scholarships at Central Piedmont Community College. All qualified applicants are considered for available scholarships. The total value of a scholarship awarded to a student is payable in amounts prorated to each quarter of the College year. Awards are based upon financial need and/or academic proficiency. An award for the second year may be made upon approval of a new application and continued satisfactory academic performance. A complete listing of the scholarship donors is to be found in the *Scholarship and Short Term Loan Fund* brochure available upon request from the Financial Aid Office.

Stafford Student Loans

The College Foundation, Inc., Raleigh, administers several loan funds, including the Stafford Student Loan Program for residents of North Carolina. Legal residents of North Carolina who are attending at least half-time at an institution of higher education are eligible to apply. Independent students and dependent students may borrow up to $2,625 per year. The Federal Government will pay the 8% interest on the loan while the student is in school and before repayment begins for students who qualify for federal interest benefits. The minimum repayment is $50.00 per month, plus interest, and the loan must be repaid within 10 years. Applications may be obtained from the Financial Aid Office.

Perkins Loan Program

Central Piedmont Community College participates in the Perkins Loan Program. This program makes funds available to students who are taking at least a half-time schedule in one of the diploma or degree programs and who need a loan to meet educational expenses.

The Perkins Program makes provisions for students to borrow up to $2,500 during their first two years of college. Repayment begins six months after the borrower ceases to pursue a course of study at an institution of higher learning, and 5% interest per year is charged on the unpaid balance.

Emergency Short-Term Loans

A limited amount of money is available to assist students in emergency situations. Assistance of this type is generally limited to $90, or tuition and fees, whichever is less, and must be repaid within 90 days.

Financial Aid: Veterans, Eligible Persons, National Guard, Selected Reserves, And Active Duty Military Personnel

The College provides educational opportunities for veterans, disabled veterans, eligible persons (spouse and/or dependents) of service-connected deceased or 100% service-connected disabled veterans, those missing in action, and prisoners of war on both the college and secondary school levels. For additional information regarding these benefits, which are administered by the Department of Veterans Affairs (formerly VA), persons should contact one of the following offices: the Department of Veterans Affairs, Regional Office, Winston-Salem, N.C., the County Veterans Service Office, the District Office of the North Carolina Division of Veterans Affairs, or the College Office of Veteran and Military Affairs (Terrell Building, second floor).

Members of the North Carolina National Guard (Air, Army) and Selected Reserves (Air Force, Army, Coast Guard, Marines, Navy) are eligible for educational assistance under the Montgomery GI Bill (MGIB) which began July 1, 1985. Benefit payments are administered by the Department of Veterans Affairs (DVA). For information, contact the respective

National Guard or Selected Reserve command, the Department of Veterans Affairs, or the College Office of Veteran and Military Affairs.

Tuition Assistance, awarded by the respective branch of service, may also be available to members of the National Guard, Selective Reserves or Active Duty personnel. Eligibility requirements are available at the member's unit command or contact the College Office of Veteran and Military Affairs.

Tutorial Assistance is available at the College "Drop-in Center" either by payments from Department of Veteran Affairs or free from the College.

The College also assists recipients of North Carolina Veterans Commission Scholarships. Student (veterans' dependents) seeking these scholarships should contact the state office, district office, or the College Office of Veteran and Military Affairs (Terrell Building, second floor).

Current GI Bills

Montgomery: Active duty since July 1, 1985	Chapter 30
Vietnam Era: Chapter 30 Eligible; Active duty since 10/19/84	Converters: Chapter 34/30
Montgomery: National Guard, Selected Reserves, since July 1, 1985	Chapter 106
Vocational Rehabilitation (service-connected, 10% or more disabled)	Chapter 31
Post-Vietnam Era, Veterans Education Assistance Program (VEAP)	Chapter 32
Spouses/Dependents (service-connected, 100% disabled, deceased)	Chapter 35
Non-Contributory VEAP	Sections 903 and 901
Pensions dependents	Chapter 36
Hostage Relief Act	

Academic Requirements

The Department of Veterans Affairs has determined that the College has a ***"non-punitive" grading policy*** for veteran benefit purposes. A veteran/eligible person/Guardsman/Reservist must pass required program courses for benefits unless there are mitigating circumstances acceptable to DVA. Grades that are excluded from calculation in graduation requirements are prohibited under this policy.

Class attendance is necessary. "Full-term" attendance is expected through the last scheduled class session of the quarter. CPCC instructors are required to report promptly the ***last date of attendance***.

Reporting Procedures

Guidelines in reporting requirements to DVA:

a. Veterans will not be penalized for official drops or withdrawals during a DVA-established drop/add period of 30 calendar days.
b. Pay adjustments for unofficial drops at any time, and official drops or withdrawals after 30 days, will be retroactive to the first day of the quarter unless there are mitigating circumstances acceptable to DVA.
c. Pay adjustments for ***"never attended"*** will be retroactive to the first day of the quarter or the last day of the previous enrollment, whichever is applicable.
d. No pay will be awarded for any IM, IR or W unless there are mitigating circumstances acceptable to DVA.
e. Documentation may/will be required by DVA for any mitigating circumstances.
f. Any overpayments will have to be repaid to DVA.

Mitigating Circumstances

Some examples acceptable to DVA: (This list is not all-inclusive, according to DVA.)

a. Demonstrated "good faith" pursuit. This includes evidence of receipt of tutorial, adviser or counseling services.
b. Accident, illness (personal) or death (immediate family).
c. Military, National Guard or Selected Reserve duty training.
d. Job conflict or financial problems requiring changes in employment, class schedule adjustment or drops which precluded satisfactory pursuit of course.

For All VA Benefit Recipients

Veterans, et al. are responsible for notifying the College Office of Veteran and Military Affairs and the Department of Veterans Affairs immediately of any change in their student status, such as drop/adds, stopped attendance, withdrawal, program changes, or graduation. All status changes and course-load adjustments for poor attendance will be reported to the DVA promptly. There will be no reinstatements for non-attendance for the quarter in which it was reported, unless there are mitigating circumstances. For further information, contact the College Office of Veteran and Military Affairs.

Degree and Diploma Students

Instructors are required to submit CPCC "Veterans Exceptional Reports" through their department head or dean to the College Office of Veteran and Military Affairs immediately after a student has missed two consecutive weeks or stops attending before the end of the term.

Diploma and Certificate Students

Diploma veterans, et al, (trade, adult high school, and GED) are required to turn in attendance sheets each month. They are due no later than the fifth of the following month and the last day of each quarter. Failure to turn in this report will result in prompt termination of benefits.

National Guard and Selected Reserves

Academic requirements, reporting procedures, mitigating circumstances, and other information regarding veterans and eligible persons will apply to the National Guard and Selected Reserves. Montgomery GI Bill authorizes benefits for less than half-time study when tuition assistance is not available from the federal military department concerned. Benefits are also available under the MGIB and Chapter 35 recipients for developmental courses, but not for secondary school equivalency programs.

Tuition Assistance Programs

The College and the recipient are responsible for reporting status changes or lack of satisfactory academic progress as specified by the respective branch of service or agency.

Records

"Records of Progress" are kept by the College on both veteran and non-veteran students. Progress records are furnished to all students, veteran and non-veteran, at the end of each scheduled school term.

NOTE: Veterans, et al may attend CPCC as regular students regardless of their DVA benefit status. Veterans/military related personnel should see other information in this catalog concerning all students.

Social Security Administration And Other Government Agency Benefit Programs

The College provides advisement and certification services for students (adult basic, secondary school and college levels) who are eligible for Social Security, Civil Service and Railroad Retirement. Students seeking assistance under these programs should contact the respective agency or the College Office of Veteran and Military Affairs.

STUDENT SUPPORT SERVICES

CPCC
CPCC
CPCC

CPCC:
THE
FUTURE
IS NOW

Student Development And Support

Organizations, Programs, and Services

Academic Honors

President's List

To honor students for outstanding academic achievement, the college publishes a President's List at the end of each quarter recognizing students enrolled in curriculum programs who meet the following requirements:

1. In a given quarter, complete at least 15 hours of credit in courses numbered 1000 through 5000.
2. In a given quarter, achieve a 4.00 grade point average with no IRs, IMs, or Ws.

Deans' List

To honor students for outstanding academic achievement, the college publishes a Deans' List at the end of each quarter recognizing students enrolled in curriculum programs who meet the following requirements:

1. In a given quarter, complete at least 12 hours of credit in courses numbered 1000 through 5000.
2. In the given quarter, achieve a 3.50 or greater grade point average with no IRs, IMs, or Ws.

Alumni Association

Members of the CPCC Alumni Association include both graduates and former students, current students, faculty, and staff. Graduates join as Active Members and may vote and hold office. Faculty, staff, current students, and former students join as Associate Members and receive full benefits. Associate members may not vote or hold office. Both Active and Associate members are urged to serve on the many committees working within the Association. Membership is free. Donations are encouraged.

Benefits include a travel program and special social events planned throughout the year.

The goals of the Association are to promote the continued growth, progress, and general welfare of Central Piedmont Community College; to educate the community regarding Central Piedmont Community College and, thereby, focus public awareness on the College's past and present accomplishments, as well as plans for the future; to advance the overall quality of education at Central Piedmont Community College by acting as consultants and/or advisors to various departments as requested; to provide scholarships to worthy recipients; to promote the personal, educational, and professional development of alumni, including the exchange of ideas and information relative to job placement and referral; to foster among present and former students a sentiment of regard for one another and continuing attachment to Central Piedmont Community College.

The Alumni Office is located in Terrell 403, and the office hours are 8:30 a.m. to 5 p.m., Monday through Friday. For details, call 704/342-6089.

Athletics, Intramurals, and Open Play

The gymnasium in Taylor Hall is the site of most intramural and intercollegiate athletic programs at CPCC. Sports include basketball, volleyball, badminton, and fencing.

This area is available to all currently registered students for open play (individual or team) and intramurals from 3 p.m.- 5 p.m., Monday through Thursday, and from 2 - 4 p.m. on Friday. This facility is available only to currently enrolled students with I.D. cards.

Other intramural and intercollegiate athletics are conducted in golf, tennis, softball, and soccer at appropriate sites. The sports program is coeducational.

Please call 704/342-6584 for further information.

Child Care Training Center

The Child Care Training Center provides services for children from ages 2-5 years who need care, guidance, and supervision during the day. The Center offers a developmental program designed to promote the child's physical, emotional, social, and intellectual growth.

The Center provides well-balanced meals, rest, and companionship. Time is scheduled for creative exploration in learning. The children listen to stories and to music, sing and participate in activities such as block building, painting, crafts, games, dramatic play, and science experiences.

For more information or answers to questions, call the Program Director - 704/342-6758, weekdays between 7 a.m.- 5:30 p.m.

Drop-In Center

The Drop-In Center is a warm and friendly place where students can get help from specially trained fellow students. The Center is located on the second floor of the Learning Resources Center and is open from 7:30 a.m. until 7:30 p.m. Monday through Thursday; 7:30 a.m. until 4:30 p.m. on Friday.

Educational Talent Search (ETS)

The Educational Talent Search program identifies and assists young people from the ages of 12 to 27 by encouraging them to complete high school and then enroll in college.

Qualifying students must be either low-income, a child of parents who never graduated from a 4-year college (first-generation), physically handicapped, or a veteran.

Students are advised and guided to services such as help in SAT preparation, assistance in course selection while in high school, the college admissions process, the financial aid process, counseling, high school completion, or career development to help them select the institution of their choice.

For information, call the Talent Search Office, 704/342-6393.

First Aid Team

Central Piedmont Community College's first aid team consists of faculty and staff volunteers. Team members are certified in Standard First Aid and CPR. Two members are on duty from 8:30 a.m. until 4 p.m. Monday through Friday. The telephone number for on-campus medical emergencies is 6444.

Housing

The College does not provide living accommodations for students. In all cases, students are responsible for making their own arrangement for housing.

A card file of available rooms and apartments is maintained in the Student Activities Center (Van Every, Room 111). Many of these accommodations are within walking distance of the College or are conveniently located to bus service. Students should be aware that the College does not verify or endorse information in this card file.

Human Resources Development (HRD)

The purpose of the Human Resources Development Program is to help the unemployed and the underemployed in our community prepare themselves for the labor market at a level compatible with their skills and abilities. In addition, this program will assist students interested in obtaining additional education or training necessary to reach individual career goals.

HRD teaches students how to set goals: short term and long range. Problem-solving methods are also practiced in the classroom, such as conflict reducing skills that pertain to job-related situations.

HRD students learn the proper methods for completing employment applications and resumes, as well as discussing and role-playing job interview techniques.

Classes are available for those with special employment interests, such as older adults, career changers, and youth, ages 18 to 24. Other classes include the Bank Teller Training Program, and the 10 Key/CRT Training Program.

For information, call Human Resources Development at 704/342-6969.

Job Training Partnership Act (JTPA) Program

This program is designed to serve those individuals who are in need of occupational skills training and desire to secure such training through the vocational and technical programs offered by CPCC. Training is limited to curricula that upon completion offer immediate, full-time, permanent employment in areas that have been determined to have a high occupational demand locally. Call the JTPA office at 704/342-6009.

Lost and Found

A lost and found service is located in the Student Center, (Van Every, 1st floor). Any item found on campus should be turned in to this office promptly where it is logged in. If no one claims the item within two weeks, it is used in a student sale.

Minority Recruitment

A minority recruiter works with schools, churches, other colleges, civic and business groups, and neighborhood centers in identifying prospective students.

Students are advised and guided to on-campus services such as financial aid, child care, transportation, and tutoring. Contacts with off-campus community resources are also arranged.

For more information, call the Minority Recruitment Office, 704/342-6392.

Multi-Skills Training Center

The Multi-Skills Training Center provides individualized instruction and job training in general office skills to students with disabilities that are barriers to employment. The Center also assists in developing life management skills through weekly group discussions. Emphasis is placed on job-readiness activities and job placement assistance, as well as on coping skills which stress strong self-esteem concepts.

Students participate in the six-month training, Monday through Friday, four hours per day in an ideal learning environment. The Center simulates an office atmosphere with an instructor whose role is both teacher and office manager.

The Multi-Skills Training Center serves clients referred by the North Carolina Division of Vocational Rehabilitation. After VR counselors establish eligibility, Center staff determine final admission selection through interviews and client data. Referrals and selections are conducted throughout the year.

The Center is located in the Taylor Building (TA 101) on Elizabeth Avenue, 704/342-6703.

Program Help

Program information, including admission requirements, is available by calling Telephone Registration, CHRIS (Computer-Handled Registration/Information System) at 704/342-6970. This service is available twenty-four hours a day, seven days a week. To find the telephone code for information about a specific program, consult the current class schedule.

Reading Clinic

The Reading Clinic operates on a walk-in basis to provide reading assistance to students. The Clinic is located on the second floor of the Learning Resources Center and provides diagnostic and referral services for students who wish to improve their reading skills. The Clinic also provides tutoring for those in need of basic reading instruction.

Student Activities Center

The Student Activities Center, Van Every, 1st Floor, is available to all currently enrolled students for relaxation, recreation or interaction with other students, or for involvement with student organizations or other extra-curricular activities. This area, open from 8 a.m.-8 p.m., Monday through Thursday, and 8 a.m.- 4 p.m. on Fridays, includes the following:

Game Room

The game room, open during Center hours, has pool tables, table tennis tables, and electronic games.

Lounge

The lounge is furnished with comfortable furniture for students to relax, study, converse with friends or watch television.

There is a 45″ screen television and regular programming purchased from college TV markets such as NCTV (National College Television Network). First run movies are also available on a regular basis.

Snack Bar

The snack bar is open, Monday-Thursday, 7 a.m.-7 p.m.; and Friday 7 a.m.-2 p.m. Deli sandwiches, salads, soups, and a wide variety of snacks and beverages are available.

Student Association/ Student Government/ Social & Cultural Events

The Student Association, of which every registered CPCC student is a member, consists of a Student Government Association and 17 Program Area Committees (PACs). Program areas elect students to the PACs and, in turn, members of the PACs are appointed to the SGA. This is a unique concept of student representation and every interested student is urged to participate. A copy of the Student Association Constitution and other information about the Student Association is available in the Student Activities Center (Van Every, Room 113 or 111).

The Department of Student Activities, working with the Student Government Association, plans and sponsors various social and cultural events during the year. Included in these activities are concerts, lectures, field days, athletic events, music and drama productions.

For more information, come to Van Every, Room 111, or call 704/342-6584.

Student Employment & Career Planning Center

This Center assists currently enrolled or graduated CPCC students in finding employment and planning careers. A placement advisor works with those seeking full-time employment and career opportunities.

Because a large percentage of CPCC's student body becomes employed while attending school, personnel in the Student Employment & Career Planning Center counsel in resume writing and interviewing techniques when students request this service. In becoming employed, students receive help in developing self confidence, establishing work records, and maintaining motivation to stay in school.

A career counselor aids students one-on-one or in small groups in establishing career goals by analyzing skills, abilities, interests, values, and behavioral styles. Some vocational testing is available to CPCC students for a small fee. The Center has a career library that houses over 500 books, directories, and catalogs to assist students in career research and job development activities. The library also has information on over 300 Charlotte companies. Many of these books and resource materials can be loaned to students.

A new feature in the career library is a Computer Career Guidance Program, SIGIPLUS (System of Interactive Guidance Information). SIGIPLUS is available by appointment (704/342-6463) at no cost to students and non-students. The Student Employment and Career Planning Center is located in the lobby of the Garinger Building, Room 239. 704/342-6551.

Student Organizations

The College encourages participation by students in all areas of campus life. Student organizations are chartered by the Student Association and are aided in the planning of their activities by the Director of Student Activities and in the financing of those activities by the Student Association. These organizations include service organizations, special interest groups, athletic clubs, honor societies, and professional organizations. A list of organizations can be obtained in the Student Activities Center (Van Every, Room 111).

Student Publications

Student Activities utilizes a variety of communication methods, including a *Student Newsletter,* and *The Spark,* a student newspaper (five issues quarterly) to keep students informed about campus activities. The *Literary Magazine, Keystone,* published annually, serves as a showcase for creative writing and graphics.

Further information is available in the Student Activities Center (Van Every, Room 111), 704/342-6751 or 342-6584.

Student Support Services

This program assists in the retention and graduation of eligible program participants through support services which include personal counseling, academic advice, tutorial assistance, career exporation, exposure to cultural activities, and financial aid. Eligible program participants must be accepted for or enrolled in college-level courses at CPCC, and must be at least 16 years old, low-income/first generation college student, first generation college student, or physically handicapped.

For more information, call 704/ 342-6393.

Testing and Assessment Center

The Testing Center, located on the fourth floor of the Learning Resources Center, administers a wide variety of tests for instructional, placement, diagnostic, certification, and special purposes. The Center's attractive decor and low-key method of operation reduce test anxiety.

Tests on class work are taken within time-frames designated by instructors. By using the Testing Center, instructors provide students with a more flexible time-frame for course tests, and class time – by discretion – may be used for individual conferences, discussions or special education opportunities.

The Center also assists faculty in test development, administration, grading, analysis, and research. As a result, improved student competency is reflected in mastery of measurable instructional objectives.

The Center has received national and international recognition for its piloting, field testing, and use of the innovative Computerized Adaptive (Placement) Tests developed by Educational Testing Service and the College Board. Additional computerized tests are being administered such as CLEP, National Council Architectural Registration Boards Examination, Advanced Mathematics Placement, and the Differential Aptitude Test. Future growth in computerized assessment is expected. CPCC plans to lead in and maintain the state-of-the-art in testing and assessment.

Educational professionals from across the United States and Canada call (704/342-6886) or visit the "model" Testing Center frequently.

Wider Opportunities for Women
Single Parent and Homemaker Program, Sex Equity Program

The Wider Opportunties for Women program provides returning students with the chance to explore or pursue non-traditional as well as traditional careers that lead to higher wages and job openings. The WOW program assists returning students with tuition and fees, books and supplies, transportation, and child care expenses. To qualify, the student must meet one of the following criteria:

Single Parent:
(1) is unmarried or legally separated from a spouse,
(2) has a minor child or children for which the parent has either custody or joint custody.

Homemaker:
An adult working, primarily without pay, to care for the home and family who has diminished marketable skills.

Displaced Homemaker:
A homemaker who, because of divorce, separation, death or disability of a spouse, must prepare for paid employment.

Non-Traditional Job Trainee:
An adult wishing to seek employment in an occupation which traditionally is stereotyped by sex.

In addition to the above criteria, financial assistance is awarded according to financial need, satisfactory academic progress, and the availability of funds.

Writing Center

The Writing Center is open to all CPCC students who need help with writing, whether they are taking English courses or not. The staff offers tutoring services, as well as individual instruction in using the Center's twenty-two word processors. Located on the second floor of the Learning Resources Center (LRC 210), the lab opens at 7:30 a.m. weekdays for a total of 50 hours a week. This includes two evenings each week. Students can come on a walk-in basis or make appointments with the Writing Center staff. Students are welcome to use the word processors to do any of their reports.

Special Program

Postsecondary Education Consortium

In 1983, Central Piedmont Community College was invited to join the Southeastern Postsecondary Education Consortium. PEC is one of the federally funded regional programs serving the hearing impaired. PEC serves Postsecondary institutions in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, and Puerto Rico. PEC's purpose is to assist its member institutions in expanding their vocational, technical and adult education services to hearing impaired persons by providing these institutions with funding for the expansion of programs. Other services available are:

—peer conducted evaluations
—consultation and technical assistance
—in-service training for faculty and staff
—communication linkages (including a newsletter and a computerized Deaf Information Network)

Special Services

Admission Interview and Campus Visit

Before students with special needs make the final decision to enroll at CPCC, the College recommends that they plan to visit the campus to meet the specially assigned counselors and support personnel, meet and talk with other students, and make other necessary arrangements such as housing. During this interview and visit, the counselors and staff will explain the instructional methods and approaches adopted by the College and how these methods relate to disabled students. In addition, student responsibilities and College expectations of students will be discussed.

Assessment and Evaluation

Students who have been identified previously as learning disabled are requested to submit their psychological report to the CPCC Learning Disabilities Specialist. Those students who do not have a psychological report will be given a battery of achievement tests and/or referred to a local psychologist for a psychological evaluation. The results of this evaluation are utilized in designing and implementing instructional strategies, as well as counseling, tutorial and reader services.

Those students who are not learning disabled, but who are unable to complete their studies successfully, are referred to other programs which can meet their needs. Such programs may be those of career,academic and personal counseling, study skills training and tutorial assistance.

Architectural and Attitudinal Barriers

The facilities at CPCC are 98% barrier-free, resulting from the College's long commitment to remove such barriers. The lengthy involvement of the College in providing services to handicapped persons, as well as its experience with such students, has resulted in highly positive attitudes on behalf of support, instructional and administrative personnel at CPCC.

Brailling Services

Visually impaired students can request the Brailling of instructional support materials, such as tests and handouts.

Counseling Services

Counseling is the most important service component of the entire program. The counselor is the central point in the student's educational experience and is involved in personal, social, vocational and academic counseling. The counselor is also the main referral point for other services, assisting the instructor and determining the need for tutorial and other services.

Handicapped Parking

A brochure describing campus parking facilities and regulations is available upon request from the Special Services Department.

Interpreting Services

The most critical component for any program for the hearing impaired is interpreting service. The success of the student's educational experience is greatly dependent on the availability, quality, and flexibility of these services. The College employs a number of highly qualified and certified interpreters. Certain reasonable schedule adjustments may be necessary periodically in order to accommodate all students.

Optacon

The Optacon (Optical-to-Tactile Converter) is an electronic device by which the visually impaired person can read regular print on a CRT screen. A unit is available at CPCC.

Reader/Writer Service

CPCC will provide to the visually impaired a reader to read textbooks or tests outside of classes. Those students who cannot take notes because of hearing impairment, learning disability, physical impairment, or any other condition may receive assistance from volunteer note-takers.

Tutorial Services

Tutorial services are provided as a supplement to regular class work and not in place of class attendance. Any student receiving tutorial services must attend classes regularly.

GRADUATION

CPCC:
MAKES
IT
HAPPEN

Graduation

Graduation Requirements

Central Piedmont Community College awards degrees, diplomas, and certificates as described below:

CPCC awards five degrees: the ***Associate in Arts,*** the ***Associate in Science,*** the ***Associate in Fine Arts,*** the ***Associate in Applied Science,*** and the ***Associate in General Education.*** Students must fulfill the graduation requirements for their program as stated in the catalog in effect at the time of graduation or the catalog which was in effect at the time they were admitted into the program. Requirements from a catalog more than four years old should not be used, however. Exceptions can be made upon recommendation of the department head and approval of the dean.

Associate in Arts, Associate in Fine Arts, and Associate in Science Degrees

These are two-year degrees acceptable for transfer to senior colleges and universities.

Requirements:

- Completion of a *minimum* of 97 quarter credit hours, including *required* 1000- and 2000-level courses. A *minimum* of 32 quarter credit hours must be earned at CPCC, 16 of which must be the final credit hours prior to graduation;
- Completion of a *minimum* of 32 additional quarter credit hours if the student has previously earned an Associate in General Education Degree;
- Official copies of high school and *all* other college/university transcripts in the student's folder in the Student Records Office.

Associate in Applied Science Degree

Requirements:

- Completion of a *minimum* of 97 quarter credit hours including the required courses in the student's program of study. A *minimum* of 32 quarter credit hours must be earned at CPCC, 16 of which must be the final credit hours prior to graduation;
- Completion of a minimum of 32 additional quarter credit hours if the student has previously earned an Associate in General Education Degree;
- Official copies of high school and *all* other college/university transcripts in the student's folder in the Student Records Office.

Associate in General Education Degree:

Requirements:

- Completion of at least four courses from three of the following disciplines (one of which must be English): English, Social Science, Science or Mathematics, Humanities, Performing Arts or Fine Arts;
- A *maximum* of 24 quarter credit hours in 9000 courses may be used;
- Completion of 96 quarter credit hours of college credit courses;
- Completion of 32 additional quarter credit hours of college credit courses if the student has earned another degree;
- A *minimum* of 32 quarter credit hours must be earned at CPCC, 16 of which must be the final credit hours prior to graduation;
- Official copies of high school and *all* other college/university transcripts on file in the student's folder in the Student Records Office.

Diplomas:

Central Piedmont Community College also awards diplomas in various programs.

Requirements:

- Completion of a *minimum* of 64 quarter credit hours of required courses in the student's program of vocational career study;
- The final 15 quarter credit hours must be earned at CPCC;
- Official copies of high school and *all* other college/university transcripts in the student's folder in the Student Records Office.

Certificates:

Certificates for certain courses having specific requirements are awarded by various departments at CPCC.

Processing of Degrees and Diplomas

1. If a student is within two quarters of graduation, including the current quarter of enrollment, a Graduation Check Request Form should be obtained from the Graduation Certification Office in the Terrell Building (Room 219), phone 342-6525.

2. After receiving this form, staff in the Graduation Certification Office review all records in the student's folder and mail the student a list of courses that must be completed in the final quarter of study, as well as a list of any documentation for the student's

folder that is incomplete.

3. Upon successful completion of the final courses required for graduation, a notation of the degree or diploma and the date of graduation is entered on the student's CPCC transcript. The student's date of graduation is the Quarter (Summer, Fall, Winter, or Spring) when all documents needed for graduation certification are on the file in the student's folder. Graduates may request copies of their transcripts from the Office of Student Records, Terrell Building (Room 200), whenever it is necessary for them to provide documentation of completed course work and related training for employers and others requiring this information. There is no charge for the first two copies; additional copies are $1.00 each.* Transcripts are not released if the student owes money to the College.

4. Any graduate who would like an engraved degree or diploma, suitable for framing as a memento, needs to fill out a Degree/Diploma Order Form in the Graduation Certification Office (Terrell Building, Room 219). This form is then presented to the Business Office with payment of the $12.50* order fee. Students who must have their engraved degrees/diplomas mailed outside the U.S.A. need to make arrangements with the Graduation Certification Office prior to their departure to cover the special postal charges and insurance that will be required.

**NOTE: This cost is subject to change without notice.*

FACILITIES AND SERVICES

CPCC:
EXPLORE
YOUR HIDDEN
POTENTIAL

Facilities and Services

The College is supported by state, federal, and local funds to provide superior instruction and optimum use of equipment and laboratories at a minimum cost to students. For the convenience of students, there is the main campus and four Area Learning Centers.

Area Learning Centers

At the College's four learning centers, students can register and pay tuition for all CPCC courses, buy their books and, in many cases, attend classes or do lab work in business, accounting, advancement studies, and computer science. Each center also has a complete library of telecourses and audiocourses. Off-campus classes at nearby high schools, churches, community centers and other locations in the neighborhood are supported and coordinated through the Area Learning Centers.

CPCC's four centers are:

FREEDOM DRIVE AREA LEARNING CENTER —
704/342-6658
2615 Freedom Drive
Charlotte

MATTHEWS AREA LEARNING CENTER —
704/847-1477
Matthews Depot Shopping Center
Matthews

NORTH CENTER —
704/875-8360
Verhoeff Dr.
Huntersville

PINEVILE AREA LEARNING CENTER —
704/542-9678
Park 51 Shopping Center
Pineville

Main Campus

The main campus includes a bookstore, snack bar, classrooms, well-equipped laboratories, specialized shop areas, a learning resources center (library), and student parking.

Bookstore

It is the student's responsibility to obtain the required textbooks and supplies prior to the first class meeting. The College maintains a Bookstore from which students may purchase the necessary books and supplies. Any book may be special ordered if not in stock. Other items available for purchase are general books, CPCC imprinted apparel, greeting cards, magazines, candy and snacks, and other sundry items. A copying machine is also located in the Bookstore. The Bookstore will buy used books from students the last week of each quarter.

The Bookstore is open from 9 a.m. until 7:30 p.m., Monday through Thursday, and from 9 a.m. until 3 p.m. on Friday. Extended Bookstore hours will be posted at the beginning of each quarter to accommodate book rush.

The Bookstore also operates satellite bookstores in each of the four area learning centers the first two weeks of every quarter.

For more information, call 704/342-6587 or 342-6649.

Classrooms, Studios, Laboratories, and Shops

In addition to main campus classes, CPCC classes meet in neighborhood churches, schools, and office buildings. On the main campus, there are many laboratories, shops, studios, and specialized areas which enable students to practice and apply classroom instruction.

Learning Resources Center

The Richard Hagemeyer Learning Resources Center supports the total instructional program of the College. Available are full information services and instructional production capabilities via cable and closed circuit television, TVRO, teleconferencing, radio, two-way classroom, microcomputers and modules using slides, films, programmed materials, books and periodicals. Appropriate equipment, facilities, and professional expertise afford the employment of any combination of these in behalf of student learning.

Auditorium/Conference Room

Pease Auditorium has 440 seats equipped for notetaking and is also used for plays, concerts, and movies.

Pease Conference Room, located across the hallway from the Auditorium, is available for small group meetings.

Library

The ***Library,*** housed on the third and fourth floors, has a collection of print and non-print materials particularly adapted to the objectives and programs of the College. Resources of the Library include reference books, bound and unbound periodicals, pamphets, microforms and audio-visual materials, in addition to the general book collection and a collection of mini-courses for independent study. Micro-form readers and copying machines are included in services provided. An Audio-Visual Center on the third floor contains materials of all types, equipment for viewing or listening, and browsing opportunities for those interested. An open-shelf arrangement is used to stimulate interest and to provide easy access to the collection of print and non-print materials. There are frequent displays on subjects of special interest. Resources of other libraries in the Charlotte area and statewide are available to faculty and students through inter-library loans. DIALOG, an on-line bibliographic retrieval system, permits access to millions of references on over 200 databases in a variety of subject fields. The Library is staffed by trained librarians who are aided by paraprofessional staff, clerical personnel, and student assistants. Students are urged to become familiar with the regulations which have been established for the benefit of all who use the Library. These procedures appear in the Student Library Bulletin and are available at the reference desk, third floor, Learning Resources Center.

The Microcomputer-Tutor Laboratory, located on the second floor, houses microcomputers for use with Micro-mate and other programs on hard discs. Student orientation to microcomputers and other tutorial services provided.

The ***Telecourse Center,*** located on the ground floor of the Learning Resources Center, is a service center with two major functions: it serves as the lab for courses offered over local television, and it houses a variety of outstanding video programs to inform, educate, and inspire faculty and students.

Parking

The main campus includes paved and well-lighted parking areas. Students may use any of these parking lots except those reserved for faculty, staff, and visitors. Access to student lots is controlled by "free-in, pay-out" gates which operate automatically. Cost is 50¢ (two quarters) for near-by lots, 25¢ (one quarter) for lots not as close, and farther lots are free. Access cards may be used. For the safety and protection of students, all campus parking decks and lots are regularly patrolled by contracted Charlotte Police Officers.

As an additional protection to students, all vehicles must be registered each year at fall quarter registration or whenever the student first registers. Each student is given a Central Piedmont Community College sticker, at no charge, that is to be placed on the rear bumper or the rear window.

Brochures explaining parking regulations at CPCC are available at the Registration Center, the Admissions Center, and at the Area Learning Centers.

Snack Bar

A snack is located on the first floor of the Van Every Building and is open Monday-Thursday, 7 a.m.-7 p.m.; and Friday, 7 a.m. - 2 p.m. Deli sandwiches, salads, soups, and a wide variety of snacks and beverages are available.

THE COLLEGE

CPCC: WHERE SEEDS GROW

MISSION STATEMENT CENTRAL PIEDMONT COMMUNITY COLLEGE

Purpose

Central Piedmont Community College is an innovative and comprehensive two-year college with a mission to: (1) advance the life-long educational development of adults consistent with their needs, interests, abilities, and efforts, and (2) strengthen the economic, social, and cultural life in the Charlotte-Mecklenburg region of North Carolina.

The College accomplishes this purpose by providing high-quality, flexible educational programs and services which are academically, geographically, and financially accessible, and which meet individual and community needs. This purpose requires a fundamental commitment to teaching excellence and a supportive, caring, student environment.

History

In 1963, Mecklenburg College and the Central Industrial Education Center were merged to establish Central Piedmont Community College, one of the first of the 58 colleges in the North Carolina Community College System. The substantial increase in the education and training needs of the community since 1963 has required commensurate expansion of the College's education programs and facilities.

In 1963, there were 23 degree and diploma programs; there now are more than 70, along with a comprehensive literacy program and an extensive array of corporate and continuing education offerings. In 1963, the College occupied the structures formerly used by Charlotte's Central High School; now there is a 33-acre downtown campus, and classes are also offered at four area learning centers and more than 200 other sites in the county. Recognizing that the downtown campus is experiencing maximum utilization, the College trustees in 1989 authorized the development of comprehensive off-campus centers in three areas of Mecklenburg County to accommodate the ever increasing needs of the burgeoning Charlotte-Mecklenburg community.

The College's standing among institutions of higher learning has kept pace with the development of its programs and facilities. It was fully accredited in 1969 by the Southern Association of Colleges and Schools; today many of its programs have special accreditation as well. It became a member of the League for Innovation in 1969, and in 1985 was named as one of the top five of the nation's two-year colleges in teaching excellence.

The Educational Vision Of CPCC

The CPCC community envisions a future for this growing metropolitan area where there is a strong sense of community and life is rewarding — a future built upon the full participation and success of all citizens and the best possible use of human, financial, and natural resources. We will take a vigorous leadership role in identifying and addressing the issues which are pivotal in making this vision a reality, for we recognize that our present and future are closely entwined with the health and vitality of the greater Charlotte-Mecklenburg region.

Central to our effort is maintaining excellence as we adapt our comprehensive programs and services to meet the educational needs of a constantly changing, technically advanced, interdependent, and complex world. More than ever before, students need advanced communication and computation skills and the mental receptiveness to acquire and apply knowledge throughout their lives. They also need to develop attitudes which support personal development and ethical understandings which will build community, both regional and global.

CPCC's leadership role requires us to explore new academic and administrative paths in the way we educate and support our students. As we grow and change, we will reflect on our efforts and demonstrate accountablility for the proper and wise use of resources. We will pursue new and better ways to assess student learning and experience so that both we and our students can improve our effectiveness.

CPCC's educational vision will be realized in an increasingly diverse community and world. Although diversity presents many challenges, we perceive diversity as a strength. Our students mirror the community, coming to us with differences in educational preparedness and intent, demographic and socio-economic backgrounds, and cultural/ethnic influences. In honoring our commitment to the open-door concept, we are determined to provide the appropriate support which gives meaning to access.

We realize we cannot achieve this vision alone; partnerships with other institutions, in our area and beyond, are critical factors in our success. We believe that building a teaching and learning community "in its broadest and best sense, encompasses a concern for the whole, for integration and collaboration, for openness and integrity, for inclusiveness and self-renewal." *(American Association of Community and Junior Colleges)*

Functional Areas

To carry out CPCC's mission, the College provides educational programs and services in the following areas:

Business, Health, and Technology Programs

The cornerstone of the Community College System in North Carolina is the preparation of students for a first career, career change, and career advancement to meet individual goals and regional needs.

The College provides vocational and technical programs in a broad range of occupational areas. Two-year associate degrees and shorter term diploma and certificate programs are offered. In support of these programs, the College will continue to form major partnerships, fueled by the advances of technology, with business and industry.

Business, Health, and Technology graduates develop marketable employment skills and college-level academic skills. In some cases, these degree programs and classes are transferrable to four-year institutions. Non-degree seeking students reach other career goals, such as updating job skills, career advancement, and re-entry into the work force with marketable skills.

Transfer Programs

From its inception, the College has provided the first two years of study in the arts and sciences and pre-professonal fields for those students who wish to transfer to four-year colleges with junior status. Students are able to transfer courses or an associate degree to four-year colleges and have the background and skills to succeed in their further studies. Graduates have a foundation in their areas of specialization, have college-level academic skills, and have successfully completed the general education core curriculum.

Basic Skills Programs

Expanding higher education opportunities to populations previously underserved was a founding principle of the community college movement. This open-door policy mandated basic skills programs for underprepared students.

Adult basic education programs provide basic literacy instruction and functional living skills. Adult high school and GED programs assist high school drop-outs and adults in completing high school. Developmental education provides classes for high school graduates who lack college skills.

Although students in these programs have very diverse goals and many students stop short of entry into college-level programs, all basic skills programs are designed to provide the necessary skills and confidence to be successful in the next level of education.

Corporate and Continuing Education

The economic development of the Charlotte-Mecklenburg region is the major thrust of corporate and continuing education. The College provides programs and services specifically designed to meet the training and re-training needs of business and industry and other area organizations, as well as meeting individual career goals for the general adult population. The formation of dynamic partnerships with community organizations and business and industry is often a critical component in meeting these needs.

The College also provides programs and services for the general adult population which stress life-long learning in the areas of academic, cultural, social, recreational, and personal development.

Business and industry and other community organizations receive assistance in identifying their training needs and in developing flexible programs and services to meet these needs.

Community Service

Central Piedmont's community service programs are widely known for their responsiveness and high quality in the Charlotte-Mecklenburg region. The College provides a wide range of cultural and artistic events, speakers, professional and technical assistance, and civic education, as well as the use of College facilities.

Student Development and Support

The diversity of the student body has made the student development and support area more critical than ever. The College provides services for recruitment and enrollment, for academic advising, for career and personal counseling, for student activities, and for special populations including high-risk students. The faculty plays a supportive role in these endeavors.

Students receive timely and accurate information about College programs and services, and receive assistance in their academic, career, and personal development. The degree to which student support services are effective has a major impact on student success.

Instructional Development and Support

CPCC is a leader among community colleges in instructional development and support. Experimentation and innovation in instruction and the use of alternative instructional delivery systems remain a major focus.

The College provides support for instructors to experiment with non-traditional modes of teaching and learning through classroom research, through the use of technology incorporated into the classroom, and through alternative delivery systems and scheduling. The instructional support area provides library, media, and learning laboratory services which give support to instructors and students to enhance the teaching and learning process.

Administrative Support

CCPC administration provides effective leadership by setting the tone and direction and by granting employees the authority and resources to carry out their duties.

The College efficiently and effectively expends its resources and is committed to maintaining a leadership role in its ulitization of personnel and campus facilities. The College provides the organizational support areas of institutional research and planning, staff and resource development, and marketing and community relations. Effective administrative processes allow the College to focus on its primary mission of providing educational programs and services.

Institutional Values

Shared values and clear expectations affect how well CPCC succeeds in accomplishing its mission. Based upon this belief, we hold the following institutional values:

Worth and Dignity of the Individual

We believe that each person is important. We appreciate the diversity in the students we serve and in ourselves. We are committed to the policies of equal opportunity and affirmative action for employees. We treat others with respect and fairness.

Individual Growth and Development

We value the talent and abilities of our faculty and staff. We try to bring out the best in our students and ourselves. We believe that meaningful and productive work encourages individual initiative and offers fulfillment. We assist student growth toward productive citizenship, self-direction, and personal responsibility. We encourage professional development and growth for all employees.

Accessibility

We recognize that many diverse barriers hinder student access to educational opportunities. We are committed to recruit and provide services to populations traditionally underserved by higher education because of these barriers. In this endeavor, innovation and technology play key roles.

Excellence

We value a job well done and believe that each individual strives for excellence. We aim for the highest level of professionalism, competence, and productivity as standards for our college. We aim for responsible participation and high achievement as standards for our students.

Innovation

We value the flexibility and diversity of our human resources and realize that there are varied approaches in carrying out our mission. We promote innovaton and responsible experimentation.

Community

We believe that a strong and vibrant community can only be built on the full participation and success of all of its citizens within a healthy natural environment. This concept encompasses our local community and the larger state, national, and global communities. We value relationships with other institutions in our region and beyond, and recognize the need to work together to avoid unnecessary duplication of effort in our common goal to reach the total population.

Accountability

We recognize that we hold the institution in trust for the citizens of Charlotte-Mecklenburg, serving as stewards for our human, financial, and physical resources. We are accountable for our use of these resources to reach our mission. We document our progress in an on-going program of institutional effectiveness and use the results of assessment to improve programs and services.

Accreditation

Central Piedmont Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees, diplomas, and certificates, as well as by the following:

American Association of Medical Assisting: medical assisting program
American Dental Association: dental assisting and dental hygiene programs
American Medical Association: respiratory therapist, medical record technology, and medical assisting programs
American Medical Record Association: medical record technology program
American Physical Therapy Association: physical therapist assistant program
Joint Review Committee for Respiratory Therapy Education: respiratory therapy program
National Automotive Technician Education Foundation: automotive technology, and automotive service technician programs
National Board for Certified Counselors: human services associate courses.
North Carolina State Board of Community Colleges
North Carolina State Board of Nursing: associate degree nursing and licensed practical nursing programs
Technology Accreditation Commission of Accreditation Board for Engineering and Technology: architectural technology, civil engineering technology, computer engineering technology, electrical engineering technology, electronics engineering technology, manufacturing engineering technology, mechanical engineering technology programs

Foundation

Central Piedmont Community College Foundation solicits contributions from individuals and corporations for the benefit of the College. It provides scholarships, part of the match for the student work study program, and limited fringe benefits for faculty and staff, on a continuing basis. The Foundation has helped finance new programs, has developed ideas, and has put into action innovative concepts when State funds were not available.

Memberships

Central Piedmont Community College is a member of:

American Association of Community and Junior Colleges
American Society for Engineering Education
North Carolina Association of Junior Colleges
American Council on Education
League for Innovation in the Community College
North Carolina Association of Colleges and Universities
Southern Association of Colleges and Schools

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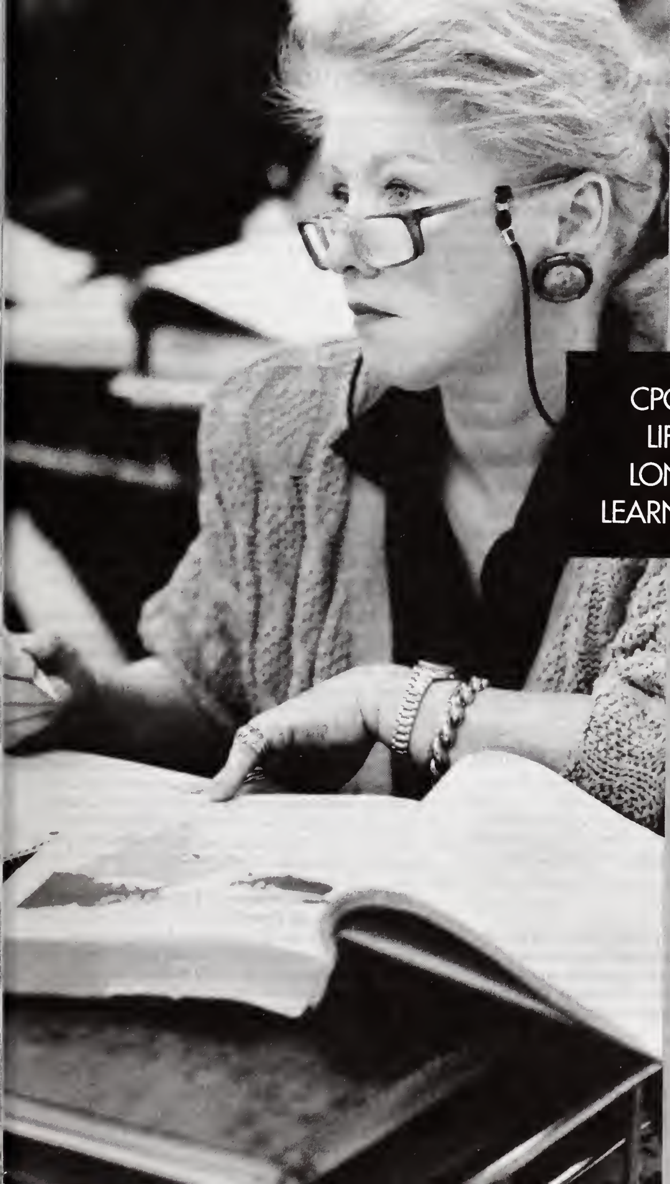

CPCC:
LIFE
LONG
LEARNING

CORPORATE & CONTINUING EDUCATION

Corporate and Continuing Education

Through Corporate and Continuing Education, CPCC teaches non-credit courses designed to meet the needs of business, industry, government, and associations. This division also offers services to international and small businesses and to new and expanding industries. In addition, a variety of courses meet community needs by providing cultural enrichment or teaching a skill to improve quality of living. All of these courses offer CEU (Continuing Education Unit) credits.

In addition to courses in this catalog, CPCC can design one to fit your specific needs in almost any subject at a site convenient for you. Whether a short or long-term course is needed, the Corporate and Continuing Education staff are available to help you get a class started quickly for your company, your business, or your association.

For assistance, call Corporate and Continuing Education at 704/342-6600.

International Business Center

The International Business Center at Central Piedmont Community College is designed to meet the growing international educational and information needs of the community, particularly those engaged in or contemplating entering international business. For additional information about the Center, call 704/342-6543. Some of the services provided by the Center are:

Educational Programs

To assist the budding international entrepreneur, a course is offered regularly on the fundamentals of international trade, in addition to seminars, non-credit short courses, and conferences on selected international business topics. CPCC also offers an Associate in Applied Science Degree and a Certificate Program in International Business. In-house programs involving custom-tailored language, culture, and area studies courses can be arranged for local companies on a self-supporting cost basis.

Resource Library on International Business

This library consists of up-to-date trade data; government regulations; cultural awareness information; and political, demographic, and economic information on specific countries. The library includes books, periodicals, encyclopedias, audio tapes, videotapes, and computer software.

Community Services

The Center is equipped to provide assistance to people exploring the idea of entering international markets, through one-on-one counseling and with practical sources of help and information. The Center has a wide network of contacts, providing resources for clients and students.

Foreign Students

The College has students enrolled from over 100 different countries. These students can be a valuable resource for local firms planning international business. The Center can arrange introductions.

Listed below are non-credit courses offered through the International Business Center.

IBX 7438 Fundamentals of International Trade: A basic introduction to international business, consisting of a series of lectures by experienced practitioners. Covers broad requirements, necessary commitment, marketing, legal and financial implications of dealing abroad, role of freight forwarders and customs brokers, and the use of documentary letters of credit.

IBX 7439 Letters of Credit: Introduces the concepts, benefits, and legal aspects of this internationally accepted means of payment for international transactions, including a basic understanding of the Uniform Customs and Practices for Documentary Credit.

IBX 7441 Concepts and Strategies of International Marketing: Outlines the principal concepts of the marketing of goods and services in other countries and cultures, including an appreciation of cultural sensitivities as they affect international sales, long-term business requirements, dynamics of world economy, and the implementation of marketing plans on an international scale.

IBX 7442 International Transportation - Principles and Practices: This thirty-hour course presents the basics of international transportation, negotiation of contracts, the handling of international shipping documentation, and a study of import requirements and customs regulations.

New and Expanding Industry Program

North Carolina's rate of industrial growth consistently ranks among the highest in the nation. In the last five years, companies from all parts of the world have invested more than $14 billion in new facilities in North Carolina after studying other possible locations.

Charlotte/Mecklenburg has received a substantial portion of this industrial growth. In support of this tremendous economic development, the State of North Carolina has established the New and Expanding Industry Program administered through the North Carolina Department of Community Colleges. This program provides training resources to companies new to North Carolina and to existing companies that are involved in major expansion.

The training is a result of joint planning by company personnel and industrial training specialists from CPCC. College personnel are available to visit the existing operations of a company in order to study the job skills, work schedules, production processes, and other variables pertinent to preparing a training proposal suited specifically to that company's particular needs.

The New and Expanding Industry Program's primary mission is to insure that business and industry in Charlotte/Mecklenburg are provided with the necessary technical and vocational training for a smooth and efficient start-up or expansion.

For assistance call 704/342-6471.

In-Plant Training

Central Piedmont Community College offers a variety of training courses taught at the client's plant or office. Instructors may be chosen from either the College faculty or from the client's staff. Instructors are paid by the College. Depending on the nature of the training, instruction may be either at the employee's work station or at a separate in-plant location.

For further information, call 704/342-6600.

Focused Industrial Training Program

Through this new program, CPCC can offer classes to as few as two or three trainees. CPCC will provide the instructor or pay competitive rates to a qualified instructor you furnish. Classroom or in-plant training is available in courses that include: Automotive Body Repair, Automotive Mechanic, Boiler Mechanic, Bricklayer, Cabinetmaker, Carpenter, Cement Mason, Chemical Operator Analyst, CNC Parts Programmer/Analyst, Computer Service Technician, Construction Equipment Mechanic, Construction Worker, Drafter-Designer, Electrical Appliance Repairer, Electrician, Electronic Technician, Farmer-Equipment Mechanic, First-Line Supervisor, Floor Coverer (tile, carpet, etc.), Fork Lift Operator, Foundry Worker, Glazier-Glass Worker, Industrial Electrician, Industrial Machinery Repairer, Laboratory Technician, Machine Fixer (textile), Machine Operator (production), Machine Operator (woodworking), Machinist, Maintenance Electrician, Maintenance Mechanic, Metalworking, Millwright, Model Maker, Painter-Decorator, Pattern Maker, Plumber-Pipe Fitter, Printer, Printing Press Operator, Production Supervisor, Quality Control Inspector, Radio-TV Repairer, Roofer, Textile Technician, Textile Worker, Tool and Die Maker, Upholsterer, and Welder.

For assistance call 704/342-6575.

Small Business Center

The Small Business Center offers support to those who want to start a small business or to those who need assistance with an existing business. The Center does this by monitoring the needs of area small businesses, offering classes and seminars to meet those needs, and by working with other community agencies serving small business. These cooperating agencies include the Small Business Administration, the Charlotte Chamber of Commerce, Federal and North Carolina Departments of Commerce, and the Minority and Women Business Owners Association. The Center also acts as a clearinghouse to refer small business owners/managers to other agencies that can provide specific assistance to meet their special needs.

For assistance, call the Small Business Center at 342-6900.

Listed below is a sampling of courses offered on a non-credit basis.

SBX 7300 Marketing and Advertising for Small Business: Covers major areas of marketing, advertising, image building and public relations for the small business with particular emphasis on stretching small budgets.

SBX 7301 Business Basics for Small Business: Surveys critical issues and questions for those contemplating going into business or for those who are new business owners. Topics include: components of a successful business plan; ways to raise capital; determining and entering your market; planning of dollar requirements and cash flow; record and bookkeeping requirements; tax policies and how to comply; insurance and benefit planning unique to a specific business; legal structures; and basic management techniques.

SBX 7302 Records Management for Small Business: Introduces basic financial records management procedures to the small business owner or potential owner. Learn how to prepare financial statements required for accounting, borrowing money, preparing taxes and managing the business.

SBX 7401 Develop Your Selling Techniques: Offers techniques for presenting yourself and your company, product or service in a positive and persuasive manner to potential buyers and customers. Learn listening techniques, how to overcome objections, when and how to ask for the order.

Occupational Extension Courses

Occupational Extension courses are designed to help improve or update job skills. The listing below contains a sample of the non-credit courses, workshops, seminars, and certification programs offered on a regular basis. Custom-designed occupational courses for special group needs are also offered.

For additional course information, call the number indicated for each prefix:

AUX, AVN, BIO, BUS, EMT, HEA, HPX, HSE, NUX — 342-6600 or 342-6508
BPR, CAR, CLU, ELX, PLU — 342-6299 or 342-6575
BUX, DPX, MKX — 342-6213 or 342-6600

AUX 7825 N.C. Safety/Emission Inspection: This is an official certification course required of all persons giving auto safety and exhaust emission inspections at licensed inspection stations in North Carolina. Call 342-6299 for information regarding the next class.

AVN 7006 Aviation Ground School: This course offers programmed study which provides instruction in aeronautical subjects required in preparation for the private pilot's written examination.

AVN 7007 Instrument Rating Ground School for Pilots: This course offers programmed study which provides instructions needed to obtain a private instrument rating. Student should have private pilot certification or instructor approval.

BIO 7001 Taxidermy: This is a basic course in taxidermy for the amateur or the aspiring professional. Preservation and mounting of small animals will be emphasized. The course will conclude with demonstration of mounting a white tail deer head.

BPR 7007 Blueprint Reading I — Construction: This course covers working drawings and blueprints, elevation drawings, floor plans, floor plan symbols and notations, scaling and dimensions practice, structural design and blueprints, reading detailed drawings, plot plans, trade information, quantity takeoffs and estimating.

BUS 7116 Notary Public: This course is designed to allow students to meet the educational requirement established by the Secretary of State in order to become a Notary Public. The required textbook covers statutes and rules which apply to those who wish to hold a notary commission.

BUX 7109 Written Business Communications: This course is designed to prepare students to communicate effectively in the business environment. Part 1 of the course reviews grammar, punctuation and sentence structure. Part 2 teaches students to apply this knowledge to produce written communications that are clear, concise and effective.

BUX 7610 Principles of Supervision: This course teaches students to apply management principles and concepts to first-line supervisory positions. Participants will learn through viewing audio tapes, role playing and case study how to give orders and instructions; how to give positive reinforcement for improved employee performance; how to develop basic skills in communicating with people; how to get employee commitment; and how to assess employee performances.

BUX 7625 Professional Development in the Workplace: This course is designed to make individuals more effective in the organizational environment. Topics covered include stress management, assertiveness techniques, time management, communication skills, personal image development, and conflict management.

BUX 7630 The Fundamental Skills of Managing People: This is an introductory course in the basic skills of supervising people. Topics include the basic characteristics of a good supervisor, effective communication skills, leadership styles, performance appraisal techniques, counseling and coaching approaches, and hiring/terminating strategies. It is designed for any supervisor/manager who is either new or needs a refresher in today's modern concepts of supervision.

BUX 7631 The Fundamental Skills of Managing People II: This course is designed to compliment BUX 7630 by covering additional supervisory topics. The course content includes communication skills with a focus on presentation techniques; the effective use of leadership styles; the ABC's of decision making; motivation approaches and strategies for delegation and problem solving.

BUX 7634 Professional Development Strategies: This course equips students with various concepts and strategies which enable them to operate effectively in an organizational environment. Topics include understanding basic personality types and how they impact on organizational relationships; general communication skills, including effective presentation techniques and negotiation skills.

BUX 7639 Bottom-Line Business Writing: This course is designed to help business people write effective memos, reports and letters. The couse teaches clear "reader-friendly" writing in less time by introducing an organizational structure for written techniques of high-impact writings, and methods for visually increasing readability.

BUX 7641 The Excellent Manager: This course is designed to challenge individual managers to achieve excellence in their organizational environment. The course discusses the criteria for excellent managers and the contingent leadership styles that impact on excellent strategies. Students, through the use of video case studies and role playing, learn how to apply leadership techniques to real-life situations.

BUX 7647 Information and Records Management: This course provides students with a basic understanding of the background and history of records management, the objectives and values of a records management program, active and inactive information and records management systems and any auxiliary functions related to the information life cycle. Students will become familiar with information management to include micrograhics, microimagery, automated information systems and reprographics.

BUX 7653 Customer Service — Making It Work: This course is designed to train employees to be enthusiastic, service oriented, professional representatives of their organization. Topics include projecting a positive self image, the importance of product and customer knowledge, techniques for handling customer complaints, communications guidelines with a focus on telephone techniques, and proven methods of winning customers' confidence and keeping it.

CAR 7025 Introduction to Construction Contracting: An introduction to the basic principles of construction contracting. Participants will learn to identify the role of the contractor in building construction; become familiar with the construction contracting laws in North Carolina; develop a general knowledge of North Carolina building codes; be introduced to the basic types of building construction; and learn some business fundamentals of contracting such as estimating, bidding, contracts and bonding.

CAR 7100 Home Construction Cost Estimating: This is a course designed to assist aspiring residential builders to estimate the cost of labor and materials necessary to construct a single-family dwelling. Topics covered include the different types of materials utilized, stages of construction, timetables for ordering materials, estimating material quantities and labor costs, reading blueprints, and letting out bids to subcontractors.

CAR 7101 Home Construction Methods and Details: This is a course designed to assist the inexperienced builder to identify and evaluate information and procedures pertaining to home construction such as lot survey, drainage, excavation and foundation construction, foundation walls, floors, wall and roof framing; appraise prefabricated walls and roof trusses, various types of duct work, heating and plumbing rough-in work, and electrical wiring; compare and select exterior wall coverings, plumbing-lighting-electrical fixtures and devices, and hardware; evaluate the actual application of the construction materials and techniques through site visitation.

CAR 7130 General Contractor's License Examination Preparation: A review of the laws, building codes, and procedure covered by the North Carolina General Contractor's Examination for residential construction contracting.

CIV 7100 Drafting and Designing House Plans: Participants will learn to design their own or alter existing residential house plans; draw plans and elevations using proper dimensioning; select the most effective house orientation for sun, wind, view, privacy, and site topography; choose the most appropriate basic house structure and determine involved traffic patterns; plan individual rooms, stairs, halls and core units (kitchen, bath and utility rooms); and design the exterior of the house including shape and proper material.

DPX 7000 Introduction to Microcomputers and PC-DOS: This is an introductory course designed to teach the basics of microcomputer operations and applications. Topics include system configuration, DOS, file commands and managing a hard disk.

DPX 7001 DOS — Level II: This is a second level DOS course. Course topics include logical hard disk organization, using directories and subdirectories, menus, editing batch files, and using path commands.

DPX 7104 Introduction to WordPerfect: This is an introductory course which is designed to train the participant to create, edit, spell check and print single and multi-page documents using current versions of WordPerfect. Topics include formatting text, typing in columns, and list/merge procedures.

DPX 7105 Intermediate WordPerfect: This intermediate course is designed to help students expand on applications learned in the introductory course. Topics include managing the print queue, customizing WordPerfect with user profiles, using macros to automate repetitive keyboard operations, use of spell check and how to produce form letters and mass mailings.

DPX 7106 Advanced WordPerfect: This is an advanced course designed to expand on applications learned in the earlier courses. Topics include a review of previous applications as well as additional topics, such as merging documents, graphics use, fonts, advanced printer functions, and converting WordPerfect files to other formats.

DPX 7115 Introduction to Lotus 1-2-3 (Level I): This is an introductory course which covers the basic concepts and operational procedures used in the spreadsheet program Lotus 1-2-3.

DPX 7117 Introduction to dBase (Level I): Learn the basics of operating the current dBase software package to create files, reorganize and arrange records within files, and generate reports.

DPX 7118 Intermediate dBase (Level II): This course is a continuation of the Level I class. Topics include the copy, total and update commands; relating two or more data bases; programming the function keys; writing a configuration file; customizing dBase; creating, viewing and cataloging files; and an introductory view of the dBase programming language.

DPX 7215 Intermediate Lotus 1-2-3 (Level II): This is the second course in the three-part Lotus 1-2-3 series. Students will develop specialized applications and learn techniques for building and handling more complex spreadsheets and data bases.

DPX 7216 Advanced Lotus 1-2-3 (Level III): This is the third course in the three-part Lotus 1-2-3 series. Students will learn how to use all the Lotus features in business applications. Special emphasis is given to database features and macros.

DPX 7521 C Language: This course is an introduction to the basics of "C" programming language. Topics include data types, operators, functions, program structures, storage classes and the preprocessor. Students should have a knowledge of MS-DOS commands before entering the course.

ELX 7050, 7051, 7052 National Electric Code I, II, and III: Together these courses cover the entire National Electric Code. They are designed to prepare aspiring electricians for the North Carolina journeyman's electrical examination.

ELX 7059 and 7159 National Electrical Code Calculations I and II: Together these courses will help participants learn how to calculate wire size and overcurrent devices for branch circuits; apply the optional or standard conversion methods to calculate sevices and feeders for single and multi-family dwellings, determine the size of service entrance equipment for single and three phase commercial services, select the proper sizes of bond jumpers, grounding electrode conductors, and equipment grounding conductors; utilize motor information to determine overcurrent protection, running overcurrent protection, conductor size and switch size in residential, commercial and industrial electric sevice applications.

EMT 7028 Emergency Medical Technician Basic: This basic course prepares students to take the state examination for Certified Emergency Medical Technicians. EMT's are employed by ambulance services, hospital emergency departments, fire departments, industries, and other public service providers. The course includes a minimum of ten hours of in-hospital training and observation to aid students in developing expertise in the emergency medical care field. The class meets two evenings per week for a total of 136 hours.

HEA 7005 CPR, One Person and Infant Care: The course includes one person (heartsaver), adult and pediatric obstructed airway, and pediatric (infant CPR). This is an American Heart Association certified course.

HEA 7006 CPR, Heartsaver: One person CPR is a basic life-saving technique for sudden cardiac arrest. CPR involves a combination of mouth-to-mouth breathing and chest compression. This techniques provides basic emergency life support until more advanced life support can be added. This is an American Heart Association certified course.

HEA 7007 CPR, Basic Rescuer: Basic Rescuer includes mouth-to-mouth breathing, one rescuer CPR; two rescuer CPR; one and/or two rescuer CPR for infant; clearing obstructed airway and a study of risk factors of heart attack and stroke. This is an American Heart Association certified course.

HPX 7000 Emergency First Aid Training: This course is designed to meet the needs of first aid emergencies in the workplace. The course will include first aid for stoppage of breathing, control of bleeding, airway obstruction, shock, and other first aid needed due to accidents and medical emergencies. This course can be tailored to your needs. (Minimum of 12 hours.)

HSE 7066 Selected Topics in Child Care and Child Development: This course is designed to familiarize professional child care personnel with appropriate development practices for preschool children. Aspects of the classroom environment and teacher behavior are examined.

MKX 7250 Fundamentals of Selling: This is a comprehensive salesmanship course covering all aspects of selling. Topics include needs analysis, features and benefits, closing techniques, the psychology of selling, and advance selling skills.

MKX 7306 Telemarketing - A Vital Service Function: This is a comprehensive skill training course in telemarketing. Topics include call planning, vocal techniques, listening, questioning techniques, benefit selling, handling objections, and closing techniques.

MKX 7307 Designing Sales Promotion/ Advertising Programs: This is a practical course in sales promotion/advertising techniques from a business viewpoint. Topics include setting advertising objectives; deciding the message/media; evaluating advertising effectiveness; developing the sales promotion program; and implementing and evaluating the promotion program results.

MKX 7308 Basic Marketing for Business: This course covers the basic principles of marketing. Topics include market analysis; marketing strategy; target marketing; the marketing mix; and marketing management.

NUX 7010 Refresher for Inactive Registered Nurses: This course is designed to allow R.N.s who have been inactive for five or more years to re-enter the work force. The course includes both classroom and clinical components.

NUX 7109 Nurse Assistant: This is a 120-hour course offered periodically throughout the year which prepares students to function as Nurse Assistants. The class meets on a daytime schedule or evening schedule. Nurse Assistants provide basic patient care, working under the guidance of a licensed nurse. Upon satisfactory completion, students will receive a certificate and be eligible for listing on the State Nurse Aide Registry.

PLU 7006 Basic Plumbing: This introduction to structural plumbing consist of lecture, discussion, and field trips. Topics include identification and evaluation of various plumbing systems, equipment, basic functions, and repair procedures involved in a building's plumbing system.

Community Service Courses

The Community Service courses and activities are designed to contribute to the community's overall cultural, civic, and intellectual growth while assisting adults in the development of new skills or the upgrading of existing ones in their avocational, academic, and practical skills areas of interest. Many classes are held off-campus to make them more convenient.

For additional information or to request courses not listed, please call 704/342-6931. Below is a sampling of some of these non-credit courses.

AVO 8315 Cake Decorating: Learn cake decorating ideas and techniques for weddings, holidays, and other special events. Instruction will include an introduction to a variety of pans, tools, and ornaments.

AVO 8327 Drawing: Build your confidence in mastering drawing techniques. Emphasis will be placed on finding solutions to a variety of visual problems. Participants will experiment with various drawing tools and materials to discover their own personal style.

AVO 8548, 8549 Ceramics I and II: Courses which incorporate the use of basic techniques for preparing greenware, painting and decorating with emphasis on using glazes and stains. Students will also be introduced to the skills of loading and firing the kiln.

AVO 8573 Flower Arranging: Learn to select materials and design arrangements suitable for almost any occasion using cut, dried or silk materials.

AVO 8575 Calligraphy: Calligraphy is the art of decorative writing. Students will learn the history of the italic style and techniques needed to execute it. Using historic and modern letters, students will learn the intricate use of the broad edge pen while building proper writing skills.

AVO 8586, 8588 Interior Decorating for Your Home I and II: Learn how to evaluate a floor plan in terms of practicality and aesthetics. Students will plan layouts of furniture as well as learn to coordinate materials in terms of finishes, color, design, and lighting for interior use.

AVO 8581 Landscape Your Home: Learn the basic elements of landscape design. Instruction will include how to choose proper plants and other materials which are most appropriate for the particular conditions present in your yard, i.e., soil, shade, sunlight, etc.

AVO 8592 Plan it, Organize it, Do it — Project Management: An introduction to the concepts of project management. The course covers the three basic parameters of any project: time, money, and resources. Throughout the course, lecture and discussion will be used to create plans, schedules, budgets, and a monitoring system for a sample project.

AVO 8597, 8598, 8599 Shag: Three courses will be offered: Beginning, Intermediate, and Advanced. These will incorporate basic Shag steps, counting, and leading and following. This class is especially popular with Carolinians who want to either learn this dance or simply polish their skills.

AVO 8625 Holiday Ornaments Crafts: This is an opportunity to make various easy, low-cost craft items. Many of the crafts may be used during holiday seasons or for special gift occasions.

AVO 8700 Tole and Decorative Painting: Tole, a decorative form of painting, can be used for many practical applications. Topics include techniques for proper brush strokes, shading, color blending, and pattern transfer.

AVO 8711 Travel Planning: Learn the role of a retail and wholesale travel agent. Topics include services a travel agent can offer to prospective clients, the basic skills and techniques in performing these services, introduction to OAG (airline, airport and city codes), ticketing, and tours.

AVO 8730, 8731 Watercolor: This course introduces students to special effects in watercolor through the use of various tools and types of paper. Specific subjects, color schemes, and compositions will be explored. There will also be varied approaches to the techniques of combining watercolor with other media.

AVO 8750 Oil Painting: This course provides students with fundamental principles of the medium and demonstrates how to use materials properly. It also includes how to begin painting and how to use the basic concepts of space, composition, and color to interpret still life, landscape, and the human form.

ECO 8255 Fundamentals of Stock Selection: This course is designed to help interested investors improve their knowledge and understanding of stocks. Topics covered include advantages of investing stocks, market theory, statement analysis, cash flow, and sources of investment information.

ECO 8330 Personal Finance and Investment Planning: Learn how the fundamentals of saving money, investing money, cutting taxes, and freeing dead money are presented in order for the participant to win in the money game. Topics include planning, limited partnerships, insurance, taxes, retirement and estate planning.

HIS 8005 Reminiscence of Historical Charlotte: This course involves a study of Charlotte-Mecklenburg's history and growth. Students will study the contributions made regionally as well as nationally.

HIS 8009 Genealogy I: Learn how to conduct beginning genealogical research, including research methods, documenting techniques, organizing information, genealogical correspondence, oral history techniques, and the use of local, county, state, and federal records. American research sources will be emphasized.

HMK 8751 Beginning Sewing: This course offers step-by-step instruction in using the sewing machine, reading and fitting a pattern, and selecting the fabric to construct basic garments, using beginning sewing techniques such as straight and zig-zag stitching, gathering, and zipper installation. Intermediate Sewing (HMK 8752) and Advanced Sewing (HMK 8753) are also offered.

HMK 8757 Women's Tailoring: Learn about equipment, supplies, personal measurements, pattern adjustments, fabric preparaton, and the application of techniques such as interfacing, underlining, padded stitches, fitting, and finishing to produce professional-looking tailored garments. This course is designed for individuals with advanced sewing skills.

HMK 8772 Lingerie Construction I: Apply basic sewing techniques to the use of nylon tricot, woven satin, elastics, laces and other notions to create professional-looking lingerie items. This course is designed for individuals with beginning sewing skills. Lingerie Construction II (HMK 8773) is also offered.

HMK 8795 Chinese Cooking I: This course emphasizes the special techniques used in cutting meats and preparing vegetables. Several popular dishes such as sweet and sour pork, beef and broccoli, egg rolls, and fried rice will be prepared by the students.

LAN 8001-8031 Conversational Foreign Languages: A variety of non-credit conversational foreign languages are offered which should enable the participant to engage in more effective verbal communication in a foreign country. Instructors are usually native speakers. Typical languages are French, Italian, German, Spanish, Russian, Chinese, and Japanese.

MEM 8769 Woodworking: This course introduces students to the proper use, safety, and care of hand and power tools. Basic methods of construction, design, finishing, and fastening of wood will be covered.

MEM 8790 Basic Auto Repair: Learn to perform vehicle preventive maintenance and basic repairs, including identifying problems, diagnosing needed repairs, determining if the vehicle is repairable and, if so, making needed repairs.

MIC 8771 Furniture Restoration: This class will cover the analysis and evaluation of a piece of furniture in terms of craftsmanship, wood type, stain, and finish. Emphasis is placed on learning restoration techniques, and the usage of restoration materials.

PSY 8012 Unleashing the Genius Within: This is a course designed to help individuals better understand how the mind works and how to channel its full potential in reading, memory, and study habits.

SEW 8113 Drapery Making: This course includes step-by-step instructions for the construction of draperies including measuring, hardware selection, fabric and trim selection, and linings.

TRANSFER PROGRAMS

CPCC:
DISCOVER
YOURSELF

Transfer Programs

Associate in Arts Degree (A.A.)
Associate in Fine Arts Degree (A.F.A.)
Associate in Science Degree (A.S.)

The College Transfer Programs offer courses comparable to freshman and sophomore courses taught at four-year colleges and universities. Many students begin college at CPCC, earn an A.A., A.F.A. or A.S. degree, and then transfer to a four-year college or university for their last two years.

Transfer requirements for four-year colleges or universities vary; therefore, course sequence should be planned by the student and program counselor with the specific four-year institution in mind. For reference, a catalog from the college or university of intended enrollment will be helpful.

College transfer courses are numbered in the 1000s and 2000s. The second digit in this number tells the number of credit hours of the course. Course descriptions are listed on pages xx of this catalog.

Note: Some of the Business, Health, and Technology Programs have a transfer agreement with senior institutions. Students should consult with a faculty advisor or program counselor regarding transferability.

Associate in Arts Degree — A.A. (C011)

The Associate in Arts Degree is awarded for liberal arts study. Students are eligible for the degree upon completion of 96 quarter hours, including the minimum in each of these areas:

Degree Requirements	**Credit Hours**
English (required of all students) (English Composition: ENG 1504, 1505)	10
Behavioral and Social Science	12
Health and Physical Education	3
Humanities	14
Biology or Physical Science or Mathematics (Choose from at least two of these three fields. At least ten hours must be taken in Laboratory Science, either biological or physical.)	20
Electives (1000 and 2000 level courses)	37
Total Credit Hours	96

Note: For a suggested sequence of required courses, see a college transfer counselor.

Associate in Fine Arts Degree — A.F.A. (C011)

The Associate in Fine Arts Degree is awarded in art, dance, and music. Students are eligible for the Associate in Fine Arts Degree upon completion of 96 quarter hours, including the minimum in each of these areas and the specific major requirements:

Degree Requirements	**Credit Hours**
English (required of all students) (English Composition: ENG 1504, 1505)	10
Behavioral and Social Science	10
Health and Physical Education	3
Humanities (Six hours must be taken outside the major area of concentration)	12
Biology or Physical Science or Mathematics (Ten hours may be taken in biology or physical science or mathematics)	10
Electives (1000 and 2000 level courses)	51
Total credit hours	96

(To fill the electives requirement (51 credit hours), choose from one of the areas of concentration below (Art, Dance, Music).

ART (C003) **Major Area of Concentration**

Students pursuing the AFA Degree in ART are required to take:

- History of Art I, II, III
- Design I, II, III
- Drawing I, II, III

Twelve hours in specific major area of concentration. Electives to bring total hours to 96.

DANCE (C038) **Major Area of Concentration**

Students pursuing the AFA Degree in DANCE are required to take:

- Dance Production (9 credits)
- Dance Technique Electives
- Dance History I, II, III
- Intermediate Ballet I, II, III (6 credits)
- Intermediate Modern I, II, III (6 credits)
- Choreography I, II, III
- Music Appreciation I
- Human Anatomy and Physiology I, II
- Music for Dancers I, II

Elective to bring total hours to 96.

MUSIC (C015) **Major Area of Concentration**

Students pursuing an AFA Degree in MUSIC are required to take:

- Class Piano I, II, III
- Advanced Music Theory I, II, III
- Advanced Applied Music (9 credits)
- Music Theory I, II, III
- Ensemble (6 credits)
- Applied Music (9 credits)
- History and Literature of Music I, II, III

Electives to bring total hours to 96.

Students must contact the department office for the correct sequence of courses.

Associate in Science Degree — A.S. (C050)

The Associate in Science Degree is awarded for study leading to majors in sciences, mathematics, engineering, and computer science. Students are eligible for the degree upon completion of 96 quarter hours, including the minimum in each of these areas:

Degree Requirements	**Credit Hours**
English (required of all students) (English Composition: ENG 1504, 1505)	10
Behavioral and Social Science	9
Health and Physical Education	3
Humanities	6
Mathematics*	20
Science**	24
Electives (1000/2000 courses)	24
Total credit hours	96

*MAT 1514 and higher

**Must include three-quarter sequence

Degree Requirements

Choose degree requirement courses from these lists for Associate in Arts, Associate in Fine Arts, and Associate in Science degrees.

Behavioral and Social Sciences

(12 hours for A.A.; 10 hours for A.F.A.; 9 hours for A.S.)

ANT 1502 General Anthropology
ECO 2304 Economics I (Macro)
ECO 2305 Economics II (Micro)
ECO 2306 Economics III
GPY 1500 Introduction to World Geography
HIS 1500 World Civilization I
HIS 1501 World Civilization II
HIS 1502 American History I
HIS 1503 American History II
HIS 1504 Recent American History
HIS 1505 The Modern World
HIS 1510 American Civil War
HIS 1520 Black History I
HIS 1521 Black History II
HIS 2500 North Carolina History
HIS 2504 Special Topics in History
POL 1502 American Politics
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2500 State and Urban Politics
POL 2501 Political Ideologies
POL 2504 Special Topics in Political Science
PSY 1500 Psychology of Adjustment
PSY 2500 Educational Psychology
PSY 2504 General Psychology
PSY 2505 Human Development
PSY 2514 Abnormal Psychology
PSY 2536 Special Problems in Psychology
SOC 1301 Group Interaction
SOC 1500 Sociology of the Family
SOC 1505 Sociology of Religion
SOC 2514 Introduction to Sociology
SOC 2515 Social Problems
SOC 2524 Special Problems of Sociology

Health and Physical Education

(3 hours for A.A. or A.F.A. or A.S.)

HED 1111 Special Health Problems
HPE 1153 Cardiopulmonary Resuscitation (CPR) Instructor
HED 1201 Special Health Problems
HED 1203 Cardiopulmonary Resuscitation (CPR)
HED 1204 Standard First Aid
HED 1205 Standard First Aid — Instructor
HED 1208 Personal Fitness Analysis
HED 1300 Introduction to Health Education
HED 1301 Special Health Problems
HED 2301 Human Sexuality in the Helping Skills
HPE 1100 Individual Activity
HPE 1104 Fencing, Beginning
HPE 1105 Fencing, Intermediate
HPE 1107 Self Defense and Physical Conditioning, Beginning
HPE 1108 Self Defense and Physical Conditioning, Intermediate
HPE 1109 Self Defense and Physical Conditioning, Advanced
HPE 1114 Snow Skiing, Beginning
HPE 1115 Snow Skiing, Intermediate
HPE 1116 Snow Skiing, Advanced
HPE 1117 Ice Skating, Beginning
HPE 1123 Physical Fitness, Beginning
HPE 1124 Physical Fitness, Intermediate
HPE 1125 Physical Fitness, Advanced
HPE 1126 Social Dance, Beginning
HPE 1127 Social Dance, Advanced Beg.
HPE 1128 Social Dance, Intermediate
HPE 1132 Weight Training
HPE 1138 Clogging, Beginning
HPE 1140 Self Protection for Women
HPE 1147 Tennis, Beginning
HPE 1148 Tennis, Intermediate
HPE 1164 Yoga, Beginning
HPE 1165 Yoga, Intermediate
HPE 1170 Aerobics
HPE 1174 Rock Climbing
HPE 1176 Introduction to Backpacking
HPE 1178 Horseback Riding, Beginning
HPE 1180 Orienteering
HPE 1184 Swimming, Beginning
HPE 1185 Swimming, Advanced Beginner
HPE 1186 Swimming, Intermediate
HPE 1187 Swimming, "Swimmer"
HPE 1190 Introduction to Golf I
HPE 1191 Introduction to Golf II
HPE 1192 Aerobics, Advanced
HPE 1193 Slimnastics, Beginning
HPE 1194 Slimnastics, Intermediate
HPE 1195 Slimnastics, Advanced
HPE 1196 Gymnastics, Beginning
HPE 1197 Gymnastics, Intermediate
HPE 1198 Bowling, Beginning
HPE 1203 Water Safety Instructor
HPE 1215 Lifeguard Training
HPE 2100 Bicycling
HPE 2112 Canoeing, Basic
HPE 2113 Canoeing, Rivers
HPE 2114 Canoeing, Basic, Whitewater
HPE 2115 Introduction to Kayaking
HPE 2116 Whitewater Kayaking

(continued)

Humanities

(14 hours for A.A.; 12 hours for A.F.A.; 6 hours for A.S.)

ART 1300	Introduction to Art I
ART 1301	Introduction to Art II
ART 1310	History of Art I
ART 1311	History of Art II
ART 1312	History of Art III
DRA 1500	Introduction to Drama
DRA 2414	Film Criticism
ENG 1301	Writers; Revoluntionaries, and Big Brother
ENG 1330	Women's Images in Fiction
ENG 1333	Science Fiction
ENG 1334	The Novel
ENG 1335	Classic Fairy Tales
ENG 2314	Contemporary Fiction
ENG 2324	The Bible as Literature
ENG 2504	British Literature, 1300-1800
ENG 2505	British Literaure, 1800-Present
ENG 2514	American Literature, 1800-1900
ENG 2515	Modern American Literature
†FRE 2600	Intermediate French I
†FRE 2601	Intermediate French II
†GER 2600	Intermediate German I
†GER 2601	Intermediate German II
HUM 1300	Ascent of Man
HUM 1319	Mythology
HUM 1329	Russian Culture
HUM 1500	Humanities: Classical to Medieval
HUM 1501	Humanities Renaissance to Present
HUM 2320	Special Topics
MUS 1314	Music Appreciation I
MUS 1315	Music Appreciation II
MUS 1316	Music Appreciation III
MUS 1404	Music Theory I
MUS 1405	Music Theory II
MUS 1406	Music Theory III
MUS 2404	History and Literature of Music I
MUS 2405	History and Literature of Music II
MUS 2406	History and Literature of Music III
MUS 2407	Advanced Music Theory I
MUS 2408	Advanced Music Theory II
MUS 2409	Advanced Music Theory III
PHI 1500	Introduction to Philosophy
PHI 2500	Logic
†SPA 2600	Intermediate Spanish I
†SPA 2601	Intermediate Spanish II
SPH 1301	Persuasive Speaking
SPH 2300	Voice and Diction
SPH 2304	Public Speaking

†May be used toward Humanities requirements if both courses are completed.

Laboratory Sciences

Choose "degree requirements" for AA or AFA or AS from this list:

Biological Sciences

BIO 1500	Biological Science
BIO 1501	General Botany
BIO 1502	General Zoology
BIO 1503	Microbiology
BIO 1504	Human Anatomy and Physiology I
BIO 1505	Human Anatomy and Physiology II
BIO 2134-2534	Selected Topics in Biology
BIO 2500	Introduction to Entomology
BIO 2501	Ornithology
BIO 2514	Vertebrate Zoology

Physical Sciences

CHM 1500	Introductory Chemistry
CHM 1501	Chemistry for the Health Professions I
CHM 1502	Chemistry for the Health Professions II
CHM 1504	General Chemistry I
CHM 1505	General Chemistry II
CHM 1506	General Chemistry III
CHM 2124 -2524	Special Problems
CHM 2414	Introductory Organic Chemistry
CHM 2604	Quantitative Chemical Analysis
CHM 2614	Organic Chemistry I
CHM 2615	Organic Chemistry II
GEL 1604	Physical Geology
GEL 2605	Historical Geology
GEO 1614	Introduction to Physical Geography
PHY 1404	Physics I: Basic Mechanics
PHY 1405	Physics II: Elastic and Thermal Properties of Matter
PHY 1406	Physics III: Electricity and Magnetism
PHY 1407	Physics IV: Modern Physics
PHY 1500	Introduction to Astronomy
PHY 2504	General Physics I: Mechanics
PHY 2505	General Physics II: Molecular Physics and Waves
PHY 2506	General Physics III: Electricity and Magnetism
PHY 2507	General Physics IV: Optics and Modern Physics

Mathematics

Choose "degree requirements" for AA or AFA or AS from this list:

MAT 1504	College Algebra I
MAT 1505	College Algebra II
MAT 1507	Trigonometry
MAT 1512	Calculus for Business and Social Sciences
MAT 1514	Precalculus Mathematics I
MAT 1515	Precalculus Mathematics II
MAT 1524	Analytic Geometry and Calculus I
MAT 2504	Analytic Geometry and Calculus II
MAT 2505	Analytic Geometry and Calculus III
MAT 2506	Analytic Geometry and Calculus IV
MAT 2508	Ordinary Differential Equations
MAT 2514	Statistical
MAT 2515	Statistics II
MAT 2590	Individual Study

Complete List of Transfer Courses

Transfer requirements for four-year colleges/universities vary; therefore, course sequence should be planned by the student and program counselor with the specific four-year institution in mind. For reference, a catalog from the college/university of intended enrollment will be helpful. Electives should be chosen from these courses.

Accounting

The accounting courses are designed to develop the student's understanding of fundamental and advanced principles of accounting; to develop the student's skill in operating machines needed on the job; and to familiarize the student with the manner in which many businesses depend upon accounting as a management tool.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC	1604	Principles of Accounting I	5	2	6
ACC	1605	Principles of Accounting II	5	2	6
ACC	2626	Intermediate Accounting I	5	2	6
ACC	2627	Intermediate Accounting II	5	2	6

Art

The Visual and Performing Arts Department seeks to provide an environment including both instruction and experience which will enable its students to define the visual statements they wish to make and to equip them with the skills to make them. The broad range of courses offered seeks to provide for the wide variety of experience, interest, aptitude and purpose of students. Opportunity for growth in skills, knowledge and appreciation are offered for both the beginning and the experienced student.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ART	1200	Fiber Dyes	0	4	2
ART	1300	Introduction to Art I	3	0	3
ART	1301	Introduction to Art II	3	0	3
ART	1303	Printmaking II	0	6	3
ART	1310	History of Art I	3	0	3
ART	1311	History of Art II	3	0	3
ART	1312	History of Art III	3	0	3
ART	1314	Woodworking I	0	6	3
ART	1315	Woodworking II	0	6	3
ART	1316	Woodworking III	0	6	3
ART	1321	Printmaking	0	6	3
ART	1323	Basic Woodcarving	0	6	3
ART	1327	Sculpture I	0	6	3
ART	1328	Sculpture II	0	6	3
ART	1329	Sculpture III	0	6	3
ART	1332	Photographing Nature	2	2	3
ART	1333	Stained Glass	0	6	3
ART	1334	Painting I	0	6	3
ART	1335	Painting II	0	6	3
ART	1336	Painting III	0	6	3
ART	1337	Portrait Painting I	0	6	3
ART	1338	Portrait Painting II	0	6	3
ART	1339	Portrait Painting III	0	6	3
ART	1344	Weaving I	0	6	3
ART	1345	Weaving II	0	6	3
ART	1346	Weaving III	0	6	3
ART	1347	Weaving IV	0	6	3
ART	1348	Watercolor I	0	6	3
ART	1349	Watercolor II	0	6	3
ART	1360	Raku	0	6	3
ART	1364	Ceramics I	0	6	3
ART	1365	Ceramics II	0	6	3
ART	1366	Ceramics III	0	6	3
ART	1374	Jewelry I	0	6	3
ART	1375	Jewelry II	0	6	3
ART	1376	Jewelry III	0	6	3
ART	1384	Basic Camera Techniques	3	0	3
ART	1385	Photo Lab Processes I	1	4	3
ART	1386	Photo Lab Processes II	1	4	3
ART	1389	Color Printing I	1	4	3
ART	1390	Color Printing II	1	4	3
ART	1392	Advanced Camera Techniques	0	3	3
ART	1404	General Drawing I	2	4	4
ART	1405	General Drawing II	2	4	4
ART	1406	General Drawing III	2	4	4
ART	1407	Figure Drawing	2	4	6
ART	1424	Design I	2	4	4
ART	1425	Design II	2	4	4
ART	1426	Design III	2	4	4
ART	1434	Airbrush	2	4	4
ART	2304	Independent Studio	0	6	3
ART	2322	Surface Design for Textiles	0	6	3

Behavioral and Social Sciences

The courses offered in this department are designed to enable students to understand the social, cultural, psychological, political, and historical development of society. Emphasis is placed upon how to apply social science principles to modern life.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Anthropology				
ANT 1502	General Anthropology	5	0	5
Education				
EDU 2500	Introduction to Education	5	0	5
Geography				
GPY 1500	Intro. to World Geography	5	0	5
History				
HIS 1500	World Civilization I	5	0	5
HIS 1501	World Civilization II	5	0	5
HIS 1502	American History I	5	0	5
HIS 1503	American History II	5	0	5
HIS 1504	Recent American History	5	0	5
HIS 1505	The Modern World	5	0	5
HIS 1510	American Civil War	5	0	5
HIS 1520	Black History I	5	0	5
HIS 1521	Black History II	5	0	5
HIS 2500	North Carolina History	5	0	5
HIS 2504	Special Topics in History	5	0	5
Political Science				
POL 1502	American Politics	5	0	5
POL 1510	Comparative Politics	5	0	5
POL 1511	International Relations	5	0	5
POL 2104	-2504 Special Topics in Political Science	1	0	5
POL 2500	State and Local Politics	5	0	5
POL 2501	Political Ideologies	5	0	5
Psychology				
PSY 1500	Psychology of Adjustment	5	0	5
PSY 2500	Educational Psychology	5	0	5
PSY 2504	General Psychology	5	0	5
PSY 2505	Human Development	5	0	5
PSY 2514	Abnormal Psychology	5	0	5
PSY 2536	Special Problems in Psychology	5	0	5
Sociology				
SOC 1301	Group Interaction	5	0	5
SOC 1500	Sociology of the Family	5	0	5
SOC 1505	Sociology of Religion	5	0	5
SOC 2514	Introduction to Sociology	5	0	5
SOC 2515	Social Problems	5	0	5
SOC 2524	Special Problems of Sociology	5	0	5

Biology

The Biology curriculum is designed to prepare students for professional careers in the life sciences and related areas; to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data, and to be thorough in considering all aspects of a problem; to impart knowledge of the fauna and flora of this region for aesthetic as well as functional purposes; to understand the role of the life sciences in mastering environments; to help students recognize themselves as highly complex members of the living world for which they are responsible; to help students become more knowledgeable citizens, parents and leaders.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BIO 1500	Biological Science	3	4	5
BIO 1501	General Botany	3	4	5
BIO 1502	General Zoology	3	4	5
BIO 1503	Microbiology	3	4	5
BIO 1504	Human Anatomy and Physiology I	3	4	5
BIO 1505	Human Anatomy and Physiology II	3	4	5
BIO 2134	-2534 Selected Topics in Biology		TBA	
BIO 2300	Genetics	3	0	3
BIO 2304	Human Nutrition	3	0	3
BIO 2308	Nutrition and the Young Child	3	0	3
BIO 2500	Introduction to Entomology	3	4	5
BIO 2501	Ornithology	3	4	5
BIO 2514	Vertebrate Zoology	3	4	5

Business Administration

The Business Administration courses which are transferable to four-year colleges and universities should provide students with the necessary background in business law, economics and management to enroll in junior and senior level business courses at the receiving college.

BUS 1500	Introduction to Business	3	2	4
BUS 2304	Business Law I	3	0	3
BUS 2305	Business Law II	3	0	3
BUS 2306	Business Law III	3	0	3
ECO 2304	Economics I (Macro)	3	0	3
ECO 2305	Economics II (Micro)	3	0	3
ECO 2306	Economics III	3	0	3
MGT 2314	Principles of Management	3	0	3
MKT 1304	Marketing I	3	0	3
MKT 1305	Marketing II	3	0	3

(Health and Physical Education continued)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
HPE 1177	Wilderness Skills	0	3	1
HPE 1178	Horseback Riding, Beginning	0	3	1
HPE 1180	Orienteering	0	3	1
HPE 1184	Swimming, Beginner	0	3	1
HPE 1185	Swimming, Advanced Beginner	0	3	1
HPE 1186	Swimming, Intermediate	0	3	1
HPE 1187	Swimming, "Swimmer"	0	3	1
HPE 1190	Introduction to Golf I	0	3	1
HPE 1191	Introduction to Golf II	0	3	1
HPE 1192	Aerobics, Advanced			
HPE 1193	Slimnastics, Beginning	0	3	1
HPE 1194	Slimnastics, Intermediate	0	3	1
HPE 1195	Slimnastics, Advanced	0	3	1
HPE 1196	Gymnastics, Beginning	0	3	1
HPE 1197	Gymnastics, Intermediate	0	3	1
HPE 1198	Bowling, Beginning	0	3	1
HPE 1203	Water Safety Instructor	(1 -	3)	2
HPE 1215	Lifeguard Training	1	3	2
HPE 1404	Introduction to Recreation			
HPE 2100	Bicycling	0	3	1
HPE 2112	Canoeing, Basic	0	3	1
HPE 2113	Canoeing, Rivers	0	3	1
HPE 2114	Canoeing, Basic White Water	0	3	1
HPE 2115	Introduction to Kayaking	0	3	1
HPE 2116	Whitewater Kayaking	0	3	1
HPE 2325	Intro. to Outdoor Recreation	2	3	3

Mathematics

Mathematics courses are designed to prepare students for professional careers in mathematics and related areas, to develop student knowledge and understanding of the fundamental principles and concepts of mathematics, and to develop manipulative skills and the ability to apply mathematics to physical situations.

Choose "degree requirements" for A.A. A.F.A. or A.S. from this list.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MAT 1504	College Algebra I	5	0	5
MAT 1505	College Algebra II	5	0	5
MAT 1507	Trigonometry	5	0	5
MAT 1512	Calculus for Business and Social Sciences	5	0	5
MAT 1514	Precalculus Mathematics I	5	0	5
MAT 1515	Precalculus Mathematics II	5	0	5
MAT 1524	Analytic Geometry and Calc. I	5	0	5
MAT 2504	Analytic Geometry and Calc. II	5	0	5
MAT 2505	Analytic Geometry and Calc. III	5	0	5
MAT 2506	Analytic Geometry and Calc. IV	5	0	5
MAT 2508	Ordinary Differential Equations	5	0	5
MAT 2514	Statistics I	5	0	5
MAT 2515	Statistics II	5	0	5
MAT 2590	Individual Study	5	0	5

Performing Arts

Dance

The Dance courses emphasize strong technique classes and performing opportunities. Both modern and ballet are offered at all levels of accomplishment. Adult beginners may learn with people their own age, and the more accomplished can maintain their rate of growth and perfection. Dance Source courses bring national and ethnic techniques forward, and choreography classes explore movement and develop structuring skills. Production classes feature performances each quarter, and it is here in the final product that a creative and skilled dancer can find rewards.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
DAN 1154	Tap Dance I	0	3	1
DAN 1155	Tap Dance II	0	3	1
DAN 1156	Tap Dance III	0	3	1
DAN 1157	Jazz Dance I	0	3	1
DAN 1158	Jazz Dance II	0	3	1
DAN 1159	Jazz Dance III	0	3	1
DAN 1184	Modern Dance I	0	3	1
DAN 1185	Modern Dance II	0	3	1
DAN 1186	Modern Dance III	0	3	1
DAN 1194	Ballet I	0	3	1
DAN 1195	Ballet II	0	3	1
DAN 1196	Ballet III	0	3	1
DAN 1197	Ballet Pointe Work	0	3	1
DAN 1280	Dance for Musical Theatre	0	4	2
DAN 1290	Dance Sources	1	2	2
DAN 1384	Dance History I	3	0	3
DAN 1385	Dance History II	3	0	3
DAN 1386	Dance History III	3	0	3
DAN 2184	Advanced Modern Dance I	0	3	1
DAN 2185	Advanced Modern Dance II	0	3	1
DAN 2186	Advanced Modern Dance III	0	3	1
DAN 2194	Advanced Ballet I	0	3	1
DAN 2195	Advanced Ballet II	0	3	1
DAN 2196	Advanced Ballet III	0	3	1
DAN 2284	Choreography I	0	4	2
DAN 2285	Choreography II	0	4	2
DAN 2286	Choreography III	0	4	2
DAN 2284	Dance Seminar	2	2	3
DAN 2388	Dance Production I	0	12	3

Computers and Information Systems

The Computers and Information Systems Department offers courses for college transfer students to meet Computer Science requirements and/or to use as electives. Students should see an adviser or counselor in their major area or a member of the Computer Science faculty to determine the appropriate sequence to meet their objectives.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
EDP 1404	Computer Concepts and FORTRAN Programming I	3	2	4
EDP 1405	FORTRAN Programming II	3	2	4
EDP 1407	Computer Concepts and PASCAL Programming I	3	2	4
EDP 1408	Advanced PASCAL	3	2	4
EDP 1500	Computer Literacy	5	0	5
EDP 2306	Computer Programming I (Business)	2	2	3
EDP 2307	Computer Programming II (Business)	2	2	3
EDP 2525	Introduction to Business Computing	4	2	5

General Studies

General Studies (GEN) courses provide students with specific study of general interest. These courses carry college credit. Only ten hours of GEN courses may be applied toward the Associate in Arts, Associate in Fine Arts degrees or Associate in Science degrees. GEN courses originate in or are taught through various College departments.

GEN 1140	Field Biology	6	10	1
GEN 1141	Intro. to Nature Photography	6	10	1
GEN 1142	Field Biology/Ecology of North Carolina	0	22	1
GEN 1144	Ecology by Canoe	0	22	1
GEN 1148	Field Identification of Insects	6	10	1
GEN 1149	Field Ornithology	6	10	1

Health and Physical Education

The Health and Physical Education curriculum is designed to provide knowledge about health and wellness; provide experience in lifetime activities for effective use of leisure time. Only six hours of health and physical education courses may be applied toward the A.A. or A.F.A. degrees or three hours toward the A.S. degree.

Health

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
HED 1111	Special Health Problems	1	0	1
HED 1153	Cardiopulmonary Resuscitation (CPR) Instructor	(1 -	0)	1
HED 1201	Special Health Problems	2	0	2
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	2
HED 1204	Standard First Aid	1	2	2
HED 1205	Standard First Aid — Instructor	1	2	2
HED 1208	Personal Fitness Analysis	1	2	2
HED 1300	Intro. to Health Education	3	0	3
HED 1301	Special Health Problems	3	0	3
HED 2301	Human Sexuality in the Helping Skills	3	0	3
Physical Education Skills				
HPE 1100	Individual Activity	0	3	1
HPE 1104	Fencing, Beginning	0	3	1
HPE 1105	Fencing, Intermediate	0	3	1
HPE 1106	Fencing, Advanced	0	3	1
HPE 1107	Self Defense and Physical Conditioning, Beginning	0	3	1
HPE 1108	Self Defense and Physical Conditioning, Intermediate	0	3	1
HPE 1109	Self Defense and Physical Conditioning, Advanced	0	3	1
HPE 1114	Snow Skiing, Beginning	0	3	1
HPE 1115	Snow Skiing, Intermediate			
HPE 1116	Snow Skiing, Advanced			
HPE 1117	Ice Skating, Beginning	0	3	1
HPE 1123	Physical Fitness, Beginning	0	3	1
HPE 1124	Physical Fitness, Intermediate	0	3	1
HPE 1125	Physical Fitness, Advanced	0	3	1
HPE 1126	Social Dance, Beginning	0	3	1
HPE 1127	Social Dance, Advanced Beginner	0	3	1
HPE 1128	Social Dance, Intermediate	(0 -	3)	1
HPE 1132	Weight Training	(0 -	3)	1
HPE 1138	Clogging, Beginning	0	3	1
HPE 1140	Self Protection for Women	0	3	1
HPE 1147	Tennis, Beginning	0	3	1
HPE 1148	Tennis, Intermediate	0	3	1
HPE 1149	Tennis, Advanced	0	3	1
HPE 1150	Exercise for the Handicapped	0	3	1
HPE 1164	Yoga, Beginning	0	3	1
HPE 1165	Yoga, Intermediate	0	3	1
HPE 1166	Yoga, Advanced	0	3	1
HPE 1170	Aerobics	0	3	1
HPE 1174	Rock Climbing	0	3	1
HPE 1175	Techniques of Lead Climbing	0	3	1
HPE 1176	Introduction to Backpacking	0	3	1

(continued)

Drama

Drama courses permit students to learn theater practice and theories by involving them in regular College theater productions. They have the opportunity to learn basic backstage procedures in addition to acting in plays. Basic theater courses in play production, stagecraft, acting, and scene design are open to all students. The College theater productions are correlated with course activities whenever possible.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
DRA 1301	Stagecraft	1	4	3
DRA 1303	Acting	1	4	3
DRA 1304	Advanced Acting	1	4	3
DRA 1310	Play Production: One Acts	0	12	3
DRA 1311	Play Production: Comedy/ Drama	0	12	3
DRA 1312	Play Production: Musical	0	12	3
DRA 1500	Introduction to Drama	5	0	5
DRA 2204	Special Problems in Drama	1	3	2
DRA 2303	Acting for the Camera	1	4	3
DRA 2311	Advanced Play Production: Comedy/Drama	0	12	3
DRA 2312	Advanced Play Production: Musical	0	12	3
DRA 2414	Film Criticism	3	2	4

Music, Applied

Students may accumulate a total of nine quarter hours in any 1000 level applied music course which may be counted toward an A.F.A. Degree. Students may also accumulate a total of nine quarter hours in any 2000 level applied music course which may be counted toward an A.F.A. Degree. Any of these courses may be taken for cumulative credit for a maximum of nine quarter hours.

Applied Music: Upon completion of each course, students should have made significant improvement in technique and have mastered selected literature for the instrument.

Applied Music	Non-Transferable Credit	1 Credit	2 Credits	3 Credits
Piano	MUA 9100	MUA 1100	MUA 1200	MUA 1300
Organ	MUA 9101	MUA 1101	MUA 1201	MUA 1301

Applied Music	Non-Transferable Credit	1 Credit	2 Credits	3 Credits
Voice	MUA 9102	MUA 1102	MUA 1202	MUA 1302
Harpsichord	MUA 9103	MUA 1103	MUA 1203	MUA 1303
Harp	MUA 9104	MUA 1104	MUA 1204	MUA 1304
Violin	MUA 9105	MUA 1105	MUA 1205	MUA 1305
Guitar	MUA 9106	MUA 1106	MUA 1206	MUA 1306
Percussion	MUA 9107	MUA 1107	MUA 1207	MUA 1307
Flute	MUA 9108	MUA 1108	MUA 1208	MUA 1308
Trumpet	MUA 9109	MUA 1109	MUA 1209	MUA 1309
Trombone	MUA 9110	MUA 1110	MUA 1210	MUA 1310
String Bass	MUA 9111	MUA 1111	MUA 1211	MUA 1311
Clarinet	MUA 9112	MUA 1112	MUA 1212	MUA 1312
Saxophone	MUA 9113	MUA 1113	MUA 1213	MUA 1313

Advanced Applied Music: Upon completion of each course, students should have made further improvements in technical and musical skills and have mastered a more advanced level of literature for the instrument.

Advanced Applied Music	1 Credit	2 Credits	3 Credits
Piano	MUA 2100	MUA 2200	MUA 2300
Organ	MUA 2101	MUA 2201	MUA 2301
Voice	MUA 2102	MUA 2022	MUA 2302
Harpsichord	MUA 2103	MUA 2203	MUA 2303
Harp	MUA 2104	MUA 2204	MUA 2304
Violin	MUA 2105	MUA 2205	MUA 2305
Guitar	MUA 2106	MUA 2206	MUA 2306
Percussion	MUA 2107	MUA 2207	MUA 2307
Flute	MUA 2108	MUA 2208	MUA 2308
Trumpet	MUA 2109	MUA 2209	MUA 2309
Trombone	MUA 2110	MUA 2210	MUA 2310
String Bass	MUA 2111	MUA 2211	MUA 2311
Clarinet	MUA 2112	MUA 2212	MUA 2312
Saxophone	MUA 2113	MUA 2213	MUA 2313

Music

The Music courses are designed to provide opportunities for the greatest number of students to share in the heritage of musical culture and skills. Emphasis is placed on creative participation in performance and upon music as a medium of communication. Music is also studied as a reflection of the cultures that created it — whether present or past. *Only six hours of ensemble may be used toward the A.A. Degree.*

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MUS 1100	Vocal Ensemble	0	3	1
MUS 1104	Class Voice I	0	2	1
MUS 1105	Class Voice II	0	2	1
MUS 1107	Chamber Choir	0	3	1
MUS 1117	Wind Ensemble	0	3	1
MUS 1122	Fiddle — Bluegrass & Old-Time	0	3	1
MUS 1127	Orchestra	0	3	1
MUS 1128	Concert Band	0	3	1
MUS 1132	Introduction to Sight Singing and Ear Training	0	2	1
MUS 1133	Banjo — Old-Time Music	0	3	1
MUS 1136	Clawhammer Banjo II	0	3	1
MUS 1139	Old-Time Music "Jam"	0	3	1
MUS 1154	Class Piano I	0	3	1
MUS 1155	Class Piano II	0	3	1
MUS 1156	Class Piano III	0	3	1
MUS 1157	Intermediate Piano I	0	3	1
MUS 1158	Intermediate Piano II	0	3	1
MUS 1160	Classical and Flamenco Guitar	0	3	1
MUS 1164	Guitar	0	3	1
MUS 1165	Intermediate Guitar	0	3	1
MUS 1166	Folk Music Guitar I	0	3	1
MUS 1167	Folk Music Guitar II	0	3	1

(Music continues)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MUS 1171	Chords I	0	2	1
MUS 1172	Chords II	0	2	1
MUS 1177	Appalachian Dulcimer	0	3	1
MUS 1189	Autoharp	0	3	1
MUS 1304	Children's Music I	3	0	3
MUS 1305	Children's Music II	3	0	3
MUS 1310	Introduction to Music Theory	3	0	3
MUS 1314	Music Appreciation I	3	0	3
MUS 1315	Music Appreciation II	3	0	3
MUS 1316	Music Appreciation III	3	0	3
MUS 1320	Music for Dancers I	3	0	3
MUS 1321	Music for Dancers II	3	0	3
MUS 1324	Recording Studio Techniques I	3	0	3
MUS 1325	Recording Studio Techniques II	0	6	3
MUS 1326	Recording Studio Techniques III	0	6	3
MUS 1327	Recording Studio Techniques IV	3	0	3
MUS 1334	Music Manuscript Autography and Preparation	2	2	3
MUS 1335	Music Manuscript II	2	2	3
MUS 1350	History of Rock & Roll	3	0	3
MUS 1404	Music Theory I	3	2	4
MUS 1405	Music Theory II	3	2	4
MUS 1406	Music Theory III	3	2	4
MUS 2000	Seminar in Music	TBA		1
MUS 2100	Seminar in Music	TBA		1
MUS 2154	Advanced Class Piano I	0	3	1
MUS 2155	Advanced Class Piano II	0	3	1
MUS 2156	Advanced Class Piano III	0	3	1
MUS 2158	Piano Ensemble	0	3	1
MUS 2169	Jazz Guitar	0	3	1
MUS 2200	Seminar in Music	TBA		2
MUS 2201	Business of Music	2	0	2
MUS 2202	Songwriting	2	0	2
MUS 2204	Special Problems in Music	1	3	2
MUS 2257	Jazz Piano I	1	3	2
MUS 2258	Jazz Piano II	1	3	2
MUS 2300	Seminar in Music	TBA		3
MUS 2404	History & Literature of Music I	3	2	4
MUS 2405	History & Literature of Music II	3	2	4
MUS 2406	History & Lit. of Music III	3	2	4
MUS 2407	Advanced Music Theory I	3	2	4
MUS 2408	Advanced Music Theory II	3	2	4
MUS 2409	Advanced Music Theory III	3	2	4

Speech

Courses in Speech are designed to help students develop their skills in making both formal and informal presentations before an audience, in participating in group discussions, and enhancing listening skills.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SPH 1300	Oral Communications	3	0	3
SPH 1301	Persuasive Speaking	3	0	3
SPH 2101	Parliamentary Procedure	1	0	1
SPH 2300	Voice and Diction	3	0	3
SPH 2304	Public Speaking	3	0	3

Physical Science

Physical Science courses are designed to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data, to be thorough in considering all aspects of a problem; to prepare people to live in a complex society; to impart knowledge of scientific facts; and to promote an understanding of the contributions that physical science has made and is making to the ability to master the environment.

Chemistry

CHM 1500	Introduction to Chemistry	4	2	5
CHM 1501	Chemistry for Health Professions I	4	2	5
CHM 1502	Chemistry for Health Professions II	4	2	5
CHM 1504	General Chemistry I	3	4	5
CHM 1505	General Chemistry II	3	4	5
CHM 1506	General Chemistry III	3	4	5
CHM 2124 -2524	Special Problems		TBA	
CHM 2414	Introd. Organic Chemistry	3	2	4
CHM 2604	Quantitative Chemical Analysis	3	6	6
CHM 2614	Organic Chemistry I	4	4	6
CHM 2615	Organic Chemistry II	4	4	6
CHM 2625	Chromatography	3	6	6
CHM 2626	Optical Methods Chemical Analysis	3	6	6

Geology

GEL 1604	Physical Geology	5	2	6
GEL 2605	Historical Geology	5	2	6

Geography

GEO 1614	Introd. to Physical Geography	5	2	6

Physics

PHY 1404	Physics I: Basic Mechanics	3	2	4
PHY 1405	Physics II: Elastic and Thermal Property of Matter	3	2	4

CPCC: UNLOCKING YOUR FUTURE

COOPERATIVE EDUCATION

Cooperative Education Program

Cooperative Education or Co-op is designed to assist students in getting a head start on valuable job experience related to their program of study. In the process, students will work for employers who have agreed to help them accomplish their Measurable Learning Objectives (or MLO's). During the Co-op work experience, students will be paid by the employer, and, upon completion of the work experience, will receive a grade assigned by the Faculty Coordinator. The Co-op work experience is a means of financial support for students regardless of family income level or other financial aid arrangements. Cooperative Education is an academic work component which combines theory and concepts with the actual practice on the job.

Eligibility

Students are accepted from any of 38 or more programs of study at CPCC, provided they meet the following general criteria (other criteria may apply depending on the program of study):

1. Be currently enrolled as a CPCC student in a program of study with Co-op work experience as a course requirement or as an elective option.
2. Have a current Co-op application on file in the Co-op office. Students must keep their files active by contacting the Co-op office every six months.
3. Must receive positive references from Deptartment Head, faculty, or Faculty Coordinator.

Note: Co-op work experience is not a guaranteed placement for every student.

Present Position – Co-op In Place

Students can qualify to receive academic credit if they are already employed and the following general criteria are met:

1. The student must be acquiring significant new skill or knowledge related to the academic field of study.

and/or

2. The student must be developing a recently learned skill or applying recently learned knowledge related to the academic field of study.

and/or

3. The student must be receiving increased levels of responsibility related to the academic field of study.

and

4. The employer agrees to assist with an evaluation of the student's progress.

Job-Seeking Skills

COE 3100 Introduction to Co-operative Education is a seminar class designed to give students the "Competitive Edge." The major areas covered are Resume Development, Company Research Methods, and Interview Skills. Completion of COE 3100 is required for some programs of study.

For more information on how you can participate as a Co-op student or as a Co-op Employer, contact the Co-op Education Office, Kratt Hall 303, 704/342-6217.

BUSINESS, HEALTH & TECHNOLOGY

CPCC:
BEYOND
THE
BASICS

Business, Health, and Technology Programs

Program titles are listed alphabetically. The letter/numbers following, such as T062, are codes you will need to list on application and registration forms.

The required courses for each program are listed. Abbreviations are: HRS CLS/WK = hours of class per week; HRS LAB/WK = hours of lab per week; HRS CLC/WK = hours of clinic per week, or HRS COOP/WK = hours of co-op work per week, and HRS CR/QTR = hours of credit per quarter.

* * * * *

CPCC offers over 60 business, health, and technology programs. Some are designed to prepare students as technicians for entry into occupational fields. Others are designed to train students for jobs in occupations leading to the skilled craftsman level.

Technical Programs

These programs train students for jobs in such fields as Commercial Art, Engineering Technology (Civil, Computer, Electronics, Electrical, Manufacturing, Mechanical), Dental Hygiene, and Business Administration. The Associate Degree in Applied Science is awarded by the College upon completion of these programs, which require at least six quarters of full-time study or longer with part-time enrollment. With experience, many individuals are able to move into professional and managerial positions.

Vocational Programs

These programs train students for occupations leading to skilled or craftsman levels, such as Machinist, Welder, Computer Operator, Auto Mechanic. Certificates (for full-time study of less than one year or longer with part-time enrollment) and Diplomas (for full-time study of one year or longer with part-time enrollment) are awarded by the College upon completion. In some cases, courses taken for a Certificate or Diploma may be applied toward a Degree.

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For a description of each course, turn to the course descriptions section beginning on page 174. Pay particular attention to prerequisites and corequisites.

Accounting (TO16)

Students should consult with a faculty adviser or program counselor regarding transferability of this program to senior institutions.

The purpose of the Accounting curriculum is to prepare students to enter the accounting profession through study of accounting principles, theories, and practices with related study in law, finance, management, and data processing operations.

The curriculum is designed to prepare students for entry-level accounting positions, such as junior accountant, bookkeeper; accounting clerk, cost clerk, payroll clerk, and related data processing occupations.

With experience and additional education, graduates may advance to positions such as systems accountant, cost accountant, budget accountant, and property accountant.

The Associate in Applied Science Degree—Accounting will be awarded by the College upon completion of this program.

Note: Students interested in transferring to a senior institution should enroll in the 1000 and 2000 mathematics and English courses noted in the footnotes.

For more information or answers to questions, call the Program Director - 704/342-6545, weekdays between 7:30 a.m. and 4:30 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604 Principles of Accounting I	5	2	6
EDP 3310 Microcomputer Operations	2	2	3
*ENG 1504 English Composition I	5	0	5
§FIN 3314 Business Mathematics I	3	0	3
			17
SECOND QUARTER			
*ACC 1605 Principles of Accounting II	5	2	6
ECO 2304 Economics I	3	0	3
EDP 3324 Advanced Microcomputer Operations	2	2	3
*†ENG 3405 Technical English II	4	0	4
*§FIN 3315 Business Mathematics II	3	0	3
			19
THIRD QUARTER			
*ACC 2626 Intermediate Accounting I	5	2	6
ECO 2305 Economics II	3	0	3
EOP 3215 Microcomputer Software Lotus 1-2-3	1	2	2
*FIN 4334 Business Finance I	3	0	3
Math or Laboratory Science Elective	3	0	3
			17
FOURTH QUARTER			
*ACC 2627 Intermediate Accounting II	5	2	6
ACC 4434 Taxes—Individual	3	2	4
*ACC 4414 Microcomputer Accounting I	2	4	4
*FIN 4335 Business Finance II	3	0	3
‡Technical Elective	3	0	3
			20

*Prerequisite or corequisite required, check course description.

§MAT 1504, MAT 1505 or MAT 1514 may be taken if student has met placement test requirements.

†ENG 1505 is recommended for students who may later decide to transfer to a senior institution.

‡SEC 3404 Keyboarding required as elective for students who have not had one year of high school typing.

FIFTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 4415 Microcomputer Accounting II	2	4	4
*ACC 4447 Advanced Accounting	3	2	4
*ACC 4425 Taxes—Business and Fiduciary	3	2	4
BUS 2304 Business Law I	3	0	3
Humanities Elective	3	0	3
‡Technical Elective	3	0	3
			21
SIXTH QUARTER			
*ACC 4404 Auditing	3	2	4
*ACC 4444 Cost Accounting	3	2	4
*BUS 2305 Business Law II	3	0	3
SEC 3104 Electronic Calculations	0	2	1
SPH 1300 Oral Communications	3	0	3
‡Technical Elective	3	0	3
			18

Total Credit Hours 112

‡TECHNICAL ELECTIVES

With the approval of an adviser, students may select nine hours from the following:

*ACC	4284	Cooperative Work Experience I
*ACC	4285	Cooperative Work Experience II
ACC	4308	International Accounting
BUS	1400	Introduction to Business
*BUS	2306	Business Law III
BUS	3304	Business Statistics
*COE	3100	Introduction to Cooperative Education
EDP	3405	Microcomputer Programming—BASIC
*EDP	3406	Microcomputer Programming—Advanced BASIC
FIN	3303	Personal Investing
FIN	4303	Personal Estate Planning
*FIN	4317	Financial Statement Analysis
*FIN	4336	Financial Management
FIN	4350	Personal Money and Financial Management I
FIN	4390	Personal Money and Financial Management II

MATH OR LABORATORY SCIENCE ELECTIVES — MAT, BIO, CHM, GEL, GEO or PHY prefixes

HUMANITIES ELECTIVE —ART, DRA, ENG, FRE, GER, HUM, MUS, PHI, SPA or SPH prefixes

Administrative Office Technology (TO30)

This curriculum prepares students to perform secretarial and administrative support duties in a variety of offices including those offices with computerized, automated functions.

Students in this curriculum study keyboarding and word/information processing to develop skills in the preparation of business correspondence, reports, statistical copy, manuscripts, and business forms. Administrative support courses emphasize typical office tasks such as scheduling appointments, composing correspondence, and performing reprographic duties. Training is also provided in analyzing and coordinating office duties and systems. Skills and knowledge are developed in the areas of electronic document storage and retrieval, and computer software utilization.

Graduates of the program may be employed in offices in private business establishments involved in retailing, marketing, advertising, and manufacturing as well as in local, state, and federal government.

The Associate in Applied Science Degree—Administrative Office Technology will be awarded by the College upon completion of this program.

Credit by examination for some SEC courses can be arranged by contacting the department head. A suggested sequence of required courses for full-time students is listed below. (Course sequence sheets for part-time and evening students or students who wish to take seven quarters are available from the department or the program counselor.)

For more information or answers to questions, call 704/342-6781, weekdays between 9 a.m. aand 4 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
SEC 3302 Effective Word Techniques	3	0	0	3
SEC 4324 Information Processing Concepts	3	0	0	3
SEC 3404 Keyboarding	3	2	0	4
ENG 3515 Essentials of Grammar	5	0	0	5
FIN 3314 Business Math I	3	0	0	3
				18
SECOND QUARTER				
*SEC 3405 Document Formatting I	3	2	0	4
SEC 3320 Personal Projections	3	0	0	3
SEC 3414 Shorthand I	3	2	0	4
ENG 1504 English Composition I	5	0	0	5
EDP 3310 Microcomputer Operations	3	0	0	3
				19
THIRD QUARTER				
SEC 3305 Editing, Proofreading & Reference Skills	3	0	0	3
SEC 4370 Records Management	2	2	0	3
*SEC 4429 Word Processing I	3	2	0	4
*SEC 3415 Shorthand II	3	2	0	4
BUS 1500 Introduction to Business	5	0	0	5
				19
FOURTH QUARTER				
*SEC 4305 Business Communications	3	0	0	3
*SEC 4430 Word Processing II	3	2	0	4
*SEC 3416 Shorthand III	3	2	0	4
*SEC 3406 Document Formatting II	3	2	0	4
*EDP 3324 Advanced Microcomputer Operations	3	0	0	3
*SEC 4201 Secretarial Cooperative Experience I	0	0	20	2
				20

FIFTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*SEC 3104 Electronic Calculators	0	2	0	1
*SEC 4425 Machine Transcription	3	2	0	4
*SEC 4517 General Office Procedures	5	0	0	5
*SEC 4407 Document Production	3	2	0	4
BUS 3300 Human Relations I	3	0	0	3
‡General Education Elective	2	0	0	2
				19
SIXTH QUARTER				
ACC 3600 General Accounting **or** ACC 1604 Principles of Accounting I	5	2	0	6
MGT 4331 Administrative Office Management	3	0	0	3
SPH 1300 Oral Communications	3	0	0	3
BUS 2304 Business Law I	3	0	0	3
ECO 3300 Introduction to Economics	3	0	0	3
				18

Total Credit Hours 113

*Prerequisite or corequisite required; check course description.

‡GENERAL EDUCATION ELECTIVES:
ENG, SPH, PSY, SOC, ECO, POL, GER, FRE, SPA, PHI or HIS prefixes.

Air Conditioning and Heating Service Technician (T215)

The Air Conditioning and Heating Service Technology curriculum is comprised of technical and related instruction in the classroom and labs, cooperative education training in a related business or industry, and general academic subjects.

The cooperative work phase of the program requires students to be employed in supervised air conditioning and heating service positions to receive on-the-job experience. The cooperative work phase of the program will be supervised and evaluated.

Graduates should be able to assist in servicing residential and commercial systems, planning installations, designing systems, and organizing maintenance and work scheduling.

NOTE: Students are expected to furnish tools for selected courses. A list of these tools can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6985, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5401	Basic Calculations for Air Conditioning, Heating, and Refrigeration, Technicians	4	0	4
AHR 5411	Air Conditioning, Heating, and Refrigeration Fundamentals	4	0	4
PHY 5304	Applied Physics I	2	2	3
AHR 5224	Air Conditioning, Heating, and Refrigeration Blueprint Reading	1	2	2
				22
SECOND QUARTER				
AHR 5346	Air Conditioning and Heating Service Co-Op I		20	3
				3
THIRD QUARTER				
AHR 5314	Automatic Controls	2	3	3
AHR 5431	Air Conditioning—Residential/ Commercial	3	3	4
AHR 5444	All Weather Systems—Heat Pumps	2	6	4
AHR 5230	Basic Electronics for Air Conditioning, Heating, and Refrigeration	2	0	2
AHR 5204	Wiring Diagrams and Troubleshooting for Air Conditioning Systems	1	3	2
ENG 1504	English Composition I	5	0	5
				20

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FOURTH QUARTER				
AHR 5347	Air Conditioning and Heating Service Co-Op II		20	3
				3
FIFTH QUARTER				
AHR 5323	Oil Burners	2	3	3
AHR 5341	Gas Heat	2	3	3
AHR 5342	Electric Heat	2	3	3
AHR 5443	All Weather Systems—Conventional	3	3	4
ENG 3405	Technical English II	4	0	4
EDP 3310	Microcomputer Operations	2	2	3
				20
SIXTH QUARTER				
AHR 5348	Air Conditioning and Heating Service Co-Op III		20	3
				3
SEVENTH QUARTER				
AHR 4304	Introduction to Psychrometrics	3	0	3
AHR 4452	Residential Air Conditioning Systems Design	3	2	4
AHR 4361	Residential Air Distribution and Balance	2	2	3
AHR 4325	Air Conditioning, Heating and Refrigeration Drawing and Sketching	1	4	3
AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
General Education Electives:				
	(Social or Behavioral Science)	3	0	3
	(Natural Science or Math)	3	0	3
				22

(continued)

EIGHTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5349 Air Conditioning and Heating Service Co-Op IV		20	3
			3

NINTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 4453 Commercial Air Conditioning Systems Design	3	2	4
AHR 4462 Commercial Air Distribution and Balance	3	2	4
AHR 4373 Hydronic Systems Balance	2	2	3
General Education Elective: (Humanities or Fine Arts)	3	0	3
AHR 5394 Mechanical Codes	3	0	3
SPH 1300 Oral Communications	3	0	3
			20

Air Conditioning, Heating, and Refrigeration (VO24)

The Air Conditioning, Heating, and Refrigeration curriculum enables students to develop an understanding of the basic principles involved in the construction, installation, operation, and maintenance of climate control equipment. Courses in blueprint reading, duct construction, welding, circuits and controls, math, science, and general education are included to help provide supporting skills necessary for mechanics to function successfully in the trade.

Air conditioning, heating, and refrigeration mechanics install, maintain, service, and repair environmental control systems in residences, department and food stores, office buildings, industries, restaurants, institutions, and commercial establishments. Job opportunities exist with companies that specialize in air conditioning, heating, and commercial refrigeration installation and service. Graduates should be able to assist in installing mechanical equipment, duct work, and electrical controls necessary in residential and commercial projects. With experience, graduates should be able to service various air conditioning, heating, and refrigeration components; troubleshoot systems; and provide the preventive maintenance required by mechanical equipment. They may be employed in the areas of maintenance, installation, sales, and service in the field of air conditioning, heating, and cooling.

A Diploma in Air Conditioning, Heating, and Refrigeration will be awarded by the College upon completion of this program. Graduates may apply for advanced standing in the Air Conditioning, Heating, and Refrigeration Technology Program.

NOTE: Students are expected to furnish tools for selected courses. A list of these tools can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6985, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5411	Air Conditioning, Heating, Refrigeration Fundamentals	4	0	4
PHY 5304	Applied Physics I	2	2	3
				18
SECOND QUARTER				
*AHR 5314	Automatic Controls	2	3	3
*AHR 5321	Commercial Refrigeration Installation	2	3	3
*AHR 5322	Commercial Refrigeration Service	2	3	3
*AHR 5323	Oil Burners	2	3	3
*AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating, Refrigeration Technicians	4	0	4
				19

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
THIRD QUARTER				
*AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
*AHR 5230	Basic Electronics for Air Conditioning, Heating, & Refrigeration	2	0	2
*AHR 5333	Liquid Heat—1-Pipe and 2-Pipe Systems	2	3	3
*AHR 5431	Air Conditioning—Residential/ Commercial	3	3	4
ENG 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
				18
FOURTH QUARTER				
*AHR 5341	Gas Heat	2	3	3
*AHR 5342	Electric Heat	2	3	3
*AHR 5443	All Weather Systems—Conventional	3	3	4
*AHR 5444	All Weather Systems—Heat Pumps	2	6	4
WLD 5210	Basic Oxyacetylene Welding	1	3	2
				16

Total Credit Hours 71

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating and Refrigeration Technology (T036)

The Air Conditioning, Heating and Refrigeration Technology curriculum enables students to develop an understanding of the principles involved in designing, planning, installing, operating, troubleshooting, and organizing maintenance of climate control equipment and systems. Graduates of the Air Conditioning, Heating and Refrigeration Technology curriculum should be able to assist in planning installations, designing systems, and organizing maintenance and work scheduling. In addition, they should be able to assist in installing, servicing, and operating environmental control systems in residential and commercial establishments. Job opportunities exist with companies that specialize in residential, commercial, and industrial air conditioning, heating, and refrigeration systems, design, installation, and service. Graduates should be able to assist in designing mechanical equipment, ductwork, and electrical controls required in residential and commercial projects. With experience, graduates should be able to design various air conditioning, heating and refrigeration systems, and function efficiently in working with systems designers, engineers, mechanics, sales engineers, and others in the field. Technicians may be employed in areas of systems design, engineering assistance, estimating, sales, maintenance scheduling, installation and service management in the growing field of air conditioning, heating and cooling.

The Associate in Applied Science Degree—Air Conditioning, Heating and Refrigeration Technology will be awarded by the College upon completion of this program.

NOTE: Students are expected to furnish tools for selected courses. A list of these tools can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6985, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5411	Air Conditioning, Heating & Refrigeration Fundamentals	4	0	4
PHY 5304	Applied Physics I	2	2	3
				18

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AHR 5314	Automatic Controls	2	3	3
*AHR 5321	Commercial Refrigeration Installation	2	3	3
*AHR 5322	Commercial Refrigeration Service	2	3	3
*AHR 5323	Oil Burners	2	3	3
*AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating & Refrigeration Technicians	4	0	4
				19

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AHR 5204	Wiring Diagrams and Trouble-shooting for A/C Systems	1	3	2
*AHR 5230	Basic Electronics for Air Conditioning, Heating, & Refrigeration	2	0	2
*AHR 5333	Liquid Heat—1-Pipe and 2-Pipe Systems	2	3	3
*AHR 5431	Air Conditioning—Residential/ Commercial	3	3	4
*ENG 1504	English Composition I	5	0	5
WLD 5210	Basic Oxyacetylene Welding	1	3	2
				18

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AHR 5341	Gas Heat	2	3	3
*AHR 5342	Electric Heat	2	3	3
*AHR 5443	All Weather Systems—Conventional	3	3	4
*AHR 5444	All Weather Systems—Heat Pumps	2	6	4
*ENG 3405	Technical English II	4	0	4
				18

(continued)

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AHR 4304	Introduction to Psychrometrics	3	0	3
*AHR 4361	Residential Air Distribution and Balance	2	2	3
*AHR 4452	Residential Air Conditioning Systems Design	3	2	4
*AHR 4463	Control Systems	3	2	4
EDP 3310	Microcomputer Operations	2	2	3
				17

SIXTH QUARTER

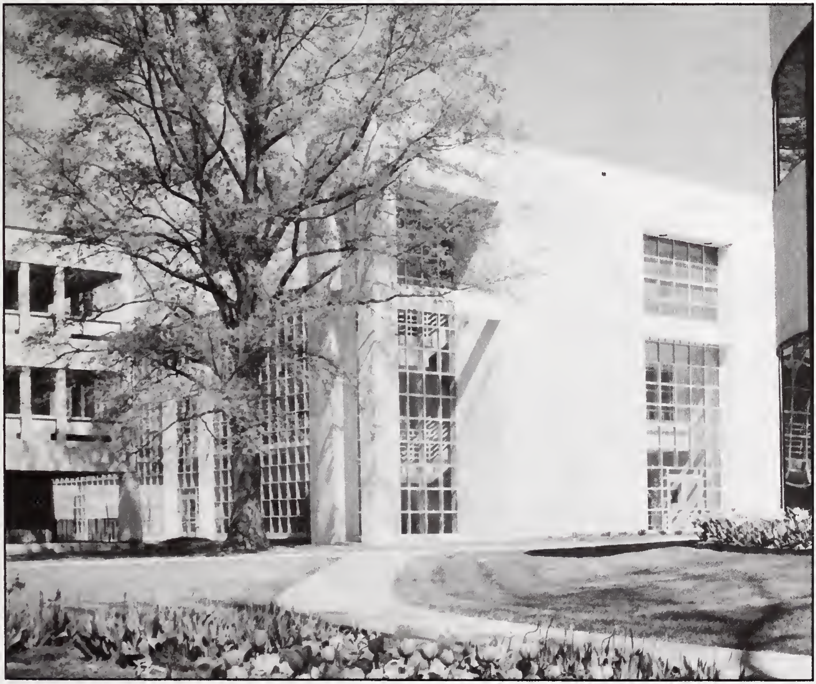
		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AHR 4451	Commercial Refrigeration Systems Design	4	0	4
*AHR 4453	Commercial Air Conditioning Systems Design	3	2	4
*AHR 4462	Commercial Air Distribution and Balance	3	2	4
SPH 1300	Oral Communications	3	0	3
General Education Elective: (Humanities or Fine Arts)		3	0	3
				18

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AHR 4325	Air Conditioning, Heating and Refrigeration Drawing and Sketching	1	4	3
*AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
*AHR 4471	Installation and Service Problems	2	6	4
General Education Electives:				
(Social or Behavioral Science)		3	0	3
(Natural Science or Math)		3	0	3
				16

Total Credit Hours 124

*Prerequisite or corequisite required; check course descriptions.



Architectural Technology (T041)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

The Architectural Technology curriculum provides students with knowledge and skills that will lead to employment and advancement in the field of architectural technology. Technical courses are included which will enable the graduate to advance into related areas of work as job experience is obtained or to continue toward an advanced degree in an associated field of technology.

Architectural technicians translate the architect's design sketches into complete and accurate plans and drawings for construction purposes. The technician will be involved in work requiring a knowledge of drafting, construction materials, mechanical and structural systems, estimating, building codes, and specifications.

Initial employment opportunities exist with architectural and engineering firms, private utilities, contractors, and municipal governments.

The curriculum at Central Piedmont Community College includes an emphasis on computer-aided-drafting (CAD) and related computer courses to prepare graduates for employment in the expanding CAD area.

The Associate of Applied Science Degree—Architectural Technology will be awarded by the College upon completion of this program.

For more information, contact the Program Counselor - 704/342-6881, the Architectural Technology Program Director - 704/342-6548 or 342-6913, or the Department - 704/342-6557, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ARC	3334	Architectural Drafting I: Basic	1	6	3
*MAT	3507	Engineering Technology Math I	5	0	5
*ENG	1504	English Composition I	5	0	5
ARC	3200	Introduction to Architecture	2	0	2
CIV	3306	Construction Materials and Methods	2	3	3
					18

SECOND QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ARC	3335	Architectural Drafting II: Residential and Light Commercial	1	6	3
*ARC	3314	Architectural Computer Drafting I	1	6	3
*MAT	3508	Engineering Technology Math II	5	0	5
*ENG	3405	Technical English II**	4	0	4
ARC	4200	Architectural Blueprint Reading & Specifications	1	3	2
					17

THIRD QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ARC	3336	Architectural Drafting III: Commercial	1	6	3
*ARC	3315	Architectural Computer Drafting II	1	6	3
PHY	1404	Physics I - Basic Mechanics	3	2	4
*CIV	3404	Surveying I	2	6	4
EDP	3310	Microcomputer Operations	2	2	3
					17

FOURTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ARC	4337	Architectural Drafting IV: Site Planning	1	6	3
*ARC	4300	Architectural - Mechanical Equipment	2	3	3
*PHY	1405	Physics II - Elastic and Thermal Properties of Matter	3	2	4
*MAT	3509	Engineering Technology Math III	5	0	5
‡Arts/Humanities Elective			3	0	3
					18

FIFTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ARC	4338	Architectural Drafting V: Mechanical, Electrical, Plumbing	1	6	3
*PHY	1406	Physics III - Electricity & Magnetism	3	2	4
CIV	3414	Statics & Strength of Materials - Basic	3	3	4
*CIV	4425	Structures I	3	3	4
*ARC	3316	Architectural Computer Drafting III	1	6	3
					18

SIXTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ARC	4339	Architectural Drafting VI: Structural	1	6	3
*CIV	4300	Codes and Contracts	2	3	3
*CIV	4305	Construction Estimates	2	3	3
*CIV	3424	Statics & Strength of Materials - Advanced	3	3	4
*CIV	4426	Structures II	3	3	4
					17

(continued)

SEVENTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ARC 4340 Architectural Drafting VII	1	6	3
*ARC 4202 Architectural Specifications Development	1	3	2
*CIV 4302 Plain Concrete and Asphalt	1	6	3
SPH 1300 Oral Communications	3	0	3
‡*Behaviorial/Social Science Elective	3	0	3
†Technical Elective			3
			17

Total Credit Hours 122

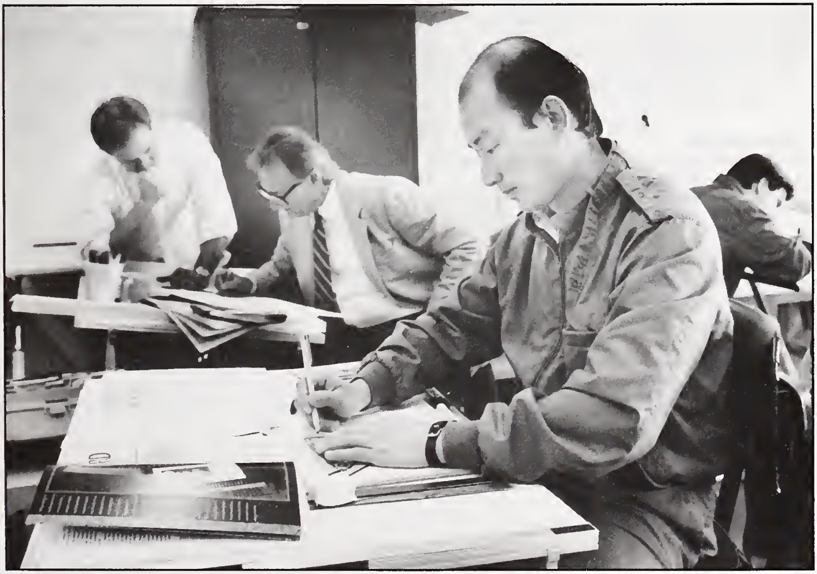
*Prerequisite or corequisite required; check course description.

**Note: ENG 1505 may be substituted for ENG 3405.

†TECHNICAL ELECTIVES

ARC 3217 Architectural Computer Drafting IV
ARC 3306 Residential Standards
ARC 3319 Advanced AutoCAD System
ARC 4302 Architectural Model Construction
ARC 4310 Energy Efficiency and Passive Solar Design
ARC 4345 Architectural Presentation Drawing
CIV 4227 Microcomputer Applications
MAT 4507 Engineering Technology Math IV

‡*GENERAL EDUCATION ELECTIVES must come from the areas of communications, social science, or humanities.



Automotive Body Repair (V001)

The Automotive Body Repair curriculum provides training in the use of equipment and materials of the auto body mechanic trade. Students study the construction of the automobile body and techniques of auto body repairing, rebuilding, and refinishing.

Repairing, straightening, aligning, metal finishing, and painting of automobile bodies and frames are typical jobs performed. Job titles include automobile body repairperson, automotive painter, and frame and chassis repairperson. Students completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

A Diploma in Automotive Body Repair will be awarded by the College upon completion of this program.

NOTE: Students must furnish required hand tools, textbooks, respirator, and protective clothing. A list of these items can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6938, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUB 5201	Trim and Glass	1	3	2
*AUB 5223	Fiberglass Fillers	1	3	2
*AUB 5224	Panel Installation	1	3	2
AUB 5421	Metal Finishing and Plastic Fillers	2	6	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
WLD 5250	Basic Gas Metal Arc Welding	1	3	2
				16

SECOND QUARTER				
*AUB 5233	Lacquer Painting	1	3	2
*AUB 5234	Enamel Painting	1	3	2
*AUB 5235	Special Finishes	1	3	2
AUB 5431	Paint Equipment and Preparation	2	6	4
AUT 5404	Steering and Suspension Systems	2	6	4
MGT 3303	Small Business Management	3	0	3
HSA 5200	Human Relations	2	0	2
				19

THIRD QUARTER				
AUB 5202	Auto Renewal	1	3	2
*AUB 5214	Door and Fender Alignment	1	3	2
AUT 5454	Automotive Heating and Air Conditioning	2	6	4
AUB 5412	Frame and Unitized Body Alignment	2	6	4
WLD 5210	Basic Oxyacetylene Welding	1	3	2
AUT 5212	Electrical Testing	1	3	2
Elective				2
				18

FOURTH QUARTER		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUB 5203	Estimating Auto Body Damage	2	0	2
*AUB 5344	Body Shop Applications I	0	9	3
*AUB 5345	Body Shop Applications II	0	9	3
*AUB 5346	Body Shop Applications III	0	9	3
ENG 5500	Communication Skills	5	0	5
†Technical Elective				3
				19

Total Credit Hours 72

*Prerequisite or corequisite required; check course description.

†TECHNICAL ELECTIVES				
AUB 5347	Body Shop Applications IV	0	9	3
AUT 5415	Electrical Systems I	2	6	4
AUB 5215	Auto Body Repair Co-op	0	20	2

Automotive Mechanics (V003)

The Automotive Mechanics curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair and adjust automotive vehicles. Manual skills are developed in practical shop work, and the technical understanding of the operating principles involved in the modern automobile is learned through class assignments, discussions, and shop practices.

Automobile mechanics maintain and repair mechanical, electrical, and body parts of passenger cars, trucks, and buses. In some communities and rural areas, they also may service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition, and use shop manuals and other technical publications as references for technical data. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

A Diploma in Automotive Mechanics will be awarded by the College upon successful completion of this program.

NOTE: Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6858, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUT 5401 Internal Combustion Engines I	2	6	4
AUT 5405 Basic Automotive Fuel Systems	2	6	4
AUT 5415 Electrical Systems I	2	6	4
AUT 5403 Basic Calculations for Auto and Diesel Technicians	4	0	4
PHY 5304 Applied Physics I	2	2	3
			19

SECOND QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AUT 5402 Internal Combustion Engines II	2	6	4
*AUT 5416 Electrical Systems II	2	6	4
AUT 5425 Power Train Systems I	2	6	4
AUT 5311 Brake Systems	2	3	3
*PHY 5305 Applied Physics II	2	2	3
			18

THIRD QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUT 5404 Steering and Suspension Systems	2	6	4
AUT 5454 Automotive Heating & Air Conditioning	2	6	4
AUT 5426 Power Train Systems II	2	6	4
*AUT 5307 Electrical and Fuel and A/C Systems Applications	1	6	3
†Elective-Technical			2
			17

FOURTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AUT 5308 Brakes, Steering & Suspension Systems Applications	1	6	3
*AUT 5427 Power Train Systems III	2	6	4
ENG 5500 Communications Skills	5	0	5
HSA 5200 Human Relations	2	0	2
WLD 5210 Basic Oxyacetylene Welding	1	3	2
			16

Total Credit Hours 70

*Prerequisite or corequisite required; check course description.

Prerequisite or corequisite may be waived by Program Director for those with appropriate training or experience.

†TECHNICAL ELECTIVES:	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUB 5201 Trim and Glass	1	3	2
*AUT 5205 Fundamentals of Computer Controlled Fuel Systems	2	0	2
*AUT 5295 Auto Mechanics Co-Op	0	20	2
DSL 5300 Diesel Fundamentals	2	3	3
DSL 5304 Hydraulics & Pneumatics	2	3	3

Automotive Service Technician (T-156)

This program is Master Certified by the Ntional Institute for Automotive Service Excellence (A.S.E.).

The Automotive Service Technician curriculum is comprised of cooperative education training and related instruction in the classroom. The related instruction is an organized and systematic form of instruction designed to provide students with knowledge of theoretical, technical, and general academic subjects related to the trade of the automotive technician.

The cooperative work phase of the program requires students to be employed full time in supervised automotive mechanic positions to receive on-the-job experience. The cooperative work phase of the program will be supervised and evaluated.

This program is designed to upgrade the technical and professional level of students desiring to become dealership technicians. This program includes classroom lecture and laboratory sessions on up-to-date specific manufacturer's vehicles, as well as paid work experience at an automotive dealership. The program requires study and work experience through nine calendar quarters. Students alternate quarters between CPCC and their assigned dealerships. Each specialized subject is covered within the classroom and laboratory at the College and is immediately followed by related work experience in the dealership.

Students are admitted to the program once a year. Satisfactory scores on specific entrance tests are required. Students must have and maintain an approved dealership sponsor.

The Associate in Applied Science Degree — Automotive Service Technician will be awarded by the College upon completion of this program.

NOTE: Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6858, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CIS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AUT 4415	Gasoline Combustion Engines I	2	4	4
AUT 4417	Automotive Fuel Delivery Systems	2	4	4
AUT 4407	Automotive Engine Electrical Systems I	2	4	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 4311	Automotive Brake Systems	2	2	3
PHY 5304	Applied Physics I	2	2	3
				22
SECOND QUARTER				
*AUT 5321	Auto Dealer Co-op I	0	30	3
				3
THIRD QUARTER				
*AUT 4408	Gasoline Combustion Engines II	2	4	4
*AUT 4409	Automotive Engine Electrical Systems II	2	4	4
*AUT 4501	Automotive Electronics	4	2	5
*AUT 4414	Automotive Climate Control Systems	2	4	4
*PHY 5305	Applied Physics II	2	2	3
EDP 3310	Microcomputer Operations	2	2	3
				23
FOURTH QUARTER				
*AUT 5322	Auto Dealer Co-op II	0	30	3
				3

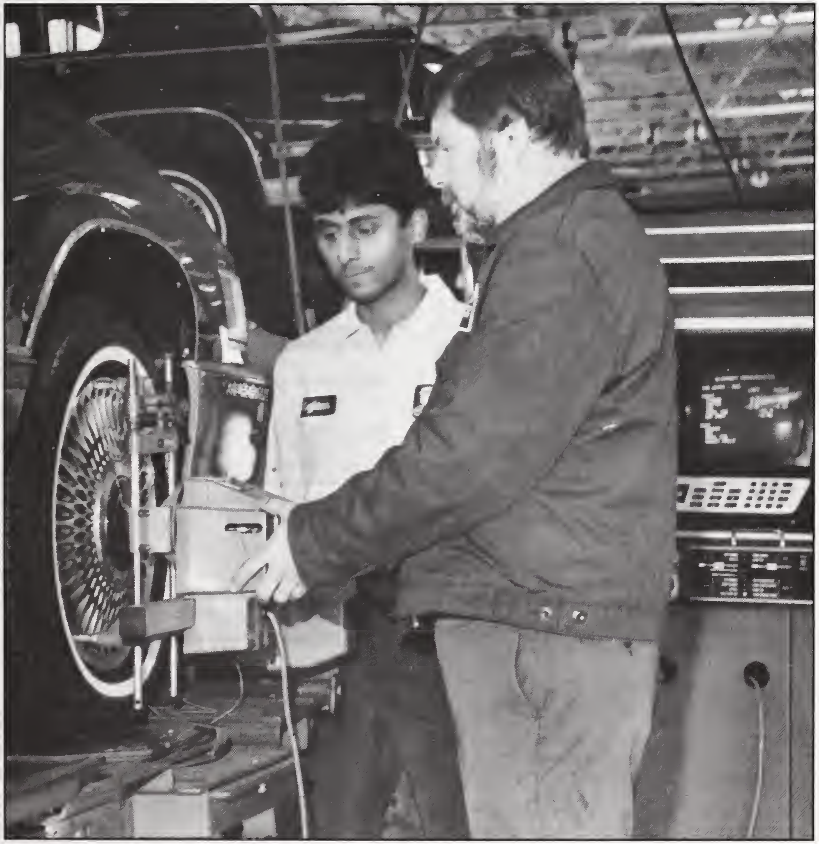
		HRS CIS /WK	HRS LAB /WK	HRS CR/ QTR
FIFTH QUARTER				
AUT 4411	Auto Manual Power Train Systems	2	4	4
AUT 4412	Automotive Suspension & Steering Systems	2	4	4
*AUT 4506	Computer Controlled Fuel Systems	4	2	5
AUT 4300	Automotive Emission Systems	2	2	3
*ENG 1504	English Composition I	5	0	5
				21
SIXTH QUARTER				
*AUT 5323	Auto Dealer Co-op III	0	30	3
				3
SEVENTH QUARTER				
AUT 4413	Automotive Automatic Transmissions	2	4	4
*AUT 4402	Auto Instrumentation & Chassis Electrical Systems	2	4	4
WLD 5250	Basic Gas-Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2
*ENG 3405	Technical English II	4	0	4
General Education Electives:				
	Humanities or Fine Arts	3	0	3
	Social or Behavioral Science	3	0	3
				22
EIGHTH QUARTER				
*AUT 5324	Auto Dealer Co-op IV	0	30	3
				3

(continued)

NINTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AUT 4416 Automotive Automatic Transaxles	2	4	4
DSL 5300 Diesel Fundamentals	2	3	3
FIN 3314 Business Mathematics I	3	0	3
General Education Elective:			
Natural Science or Math	3	0	3
SPH 1300 Oral Communications	3	0	3
			16

Total Credit Hours 116

*Prerequisite or corequisite required.



Automotive Technology (T176)

This program is Master Certified by the National Institute for Automotive Service Excellence (A.S.E.).

The Automotive Technology curriculum is designed to meet the need for preparing highly trained technicians to service and repair automobiles and light trucks equipped with highly technical electrical, electronics, and emission control systems. Emphasis is placed on the operation and servicing of the power train components, electrical systems, fuel systems, chassis and suspension, and emission controls of gasoline and diesel engine vehicles. Upon completion of this curriculum, graduates should have the theoretical knowledge and background to understand the systems of the newer model automobiles and should be prepared to work as a technician servicing automobiles and light duty trucks.

The Associate in Applied Science Degree—Automotive Technology will be awarded by the College upon completion of this program.

NOTE: Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from one of the instructors or the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6858, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUT 5401 Internal Combustion Engines I	2	6	4
AUT 5405 Basic Automotive Fuel Systems	2	6	4
AUT 5415 Electrical Systems I	2	6	4
AUT 5403 Basic Calculations for Auto and Diesel Technicians	4	0	4
PHY 5304 Applied Physics I	2	2	3
			19

SECOND QUARTER			
*AUT 5402 Internal Combustion Engines II	2	6	4
*AUT 5416 Electrical Systems II	2	6	4
AUT 5425 Power Train Systems I	2	6	4
AUT 5311 Brakes Systems	2	3	3
PHY 5305 Applied Physics II	2	2	3
			18

THIRD QUARTER			
AUT 5404 Steering and Suspension Systems	2	6	4
AUT 5426 Power Train Systems II	2	6	4
*AUT 5307 Electrical, Fuel, & A/C Systems Applications	1	6	3
AUT 5454 Automotive Heating & Air Conditioning	2	6	4
DSL 5300 Diesel Fundamentals	2	3	3
			18

FOURTH QUARTER			
*AUT 5308 Brakes, Steering, & Suspension Systems Applications	1	6	3
*AUT 5427 Power Train Systems III	2	6	4
ENG 1504 English Composition I	5	0	5
*AUT 5205 Fundamentals of Computer Controlled Fuel Systems	2	0	2
WLD 5210 Basic Oxyacetylene Welding	1	3	2
†Technical Elective			2
			18

FIFTH QUARTER (Fall Quarter Only)	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*AUT 4300 Automotive Emission Systems	2	2	3
*AUT 4501 Automotive Electronics	4	2	5
ENG 3405 Technical English II	4	0	4
DSL 5304 Hydraulic & Pneumatics	2	2	3
SPH 1300 Oral Communications	3	0	3
			18

SIXTH QUARTER (Winter Quarter Only)			
*AUT 4402 Auto Instrumentation and Chassis Electrical Systems	3	2	4
*AUT 4506 Computer Controlled Fuel Systems	4	2	5
EDP 3314 Microcomputer Operations	2	2	3
FIN 3314 Business Mathematics I	3	0	3
			15

SEVENTH QUARTER (Spring Quarter Only)			
*AUT 4308 Manual & Automatic Power Trains Applications	1	6	3
General Education Elective: Social or Behavioral Science	3	0	3
General Education Elective: Humanities or Fine Arts	3	0	3
General Education Elective: Natural Science or Math	3	0	3
			12

Total Credit Hours 118

†TECHNICAL ELECTIVES			
AUB 5201 Trim and Glass	1	3	2
*AUT 5295 Auto Mechanics Co-Op	0	20	2

*Prerequisite or corequisite required.

Prerequisite or corequisite may be waived by Program Director for those with appropriate training or experience.

Banking and Finance (T112)

The Banking and Finance curriculum prepares students to enter the banking and finance industries, it provides an educational program for banking employees wanting to receive the American Institute of Banking certificate, and it provides an educational program to upgrade or retrain individuals presently employed in the banking or finance industry.

Students develop knowledge, skills in areas such as banking or finance principles, theories and practices; teller operations; lending and collections procedures; financial analysis; marketing and public relations.

This curriculum provides the opportunity for graduates to enter a variety of banking or finance jobs in retail banks, commercial banks, government lending agencies, mortgage banks, and credit companies.

The Associate in Applied Science Degree—Banking and Finance will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6796, weekdays between 8 a.m. and 4:30 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
BAF 3301 Principles of Banking	3	0	3
BUS 1500 Introduction to Business	5	0	5
ENG 1504 English Composition I	5	0	5
FIN 3314 Business Mathematics I **or** *MAT 1504 College Algebra I	3	0	3
			16
SECOND QUARTER			
BAF 3304 Fundamentals of Teller Operations	3	0	3
BAF 3303 Money and Banking	3	0	3
ENG 3405 Technical English II **or** *ENG 1505 English Composition II	4	0	4
*FIN 3315 Business Mathematics II **or** *MAT 1505 College Algebra II	3	0	3
SEC 5200 Computer Keyboarding	1	2	2
			15
THIRD QUARTER			
ACC 1604 Principles of Accounting I	5	2	6
BAF 3300 Commercial Lending	3	0	3
BAF 3302 Law and Banking: Principles	3	0	3
BUS 3300 Human Relations	3	0	3
SEC 3304 Electronic Calculators	2	2	3
			18
FOURTH QUARTER			
*ACC 1605 Principles of Accounting II	5	2	6
BAF 4309 Consumer Lending	3	0	3
BAF 4312 Marketing for Bankers	3	0	3
EDP 3310 Microcomputer Operations	2	2	3
SPH 1300 Oral Communications	3	0	3
			18
FIFTH QUARTER			
BAF 4313 Law and Banking: Applications	3	0	3
BUS 2304 Business Law I	3	0	3
ECO 2304 Economics I	3	0	3
*MGT 2314 Principles of Management	3	0	3
†Technical Elective	3	0	3
			15
SIXTH QUARTER			
†Technical Electives	6	0	6
*BUS 2305 Business Law II	3	0	3
FIN 4350 Personal Money and Financial Management I	3	0	3
ECO 2305 Economics II	3	0	3
			15
SEVENTH QUARTER			
Humanities Elective (Students may choose any course from the Humanities listing under degree requirements in this catalog.)	3	0	3
Math or Science Elective (Students may choose any course from the Laboratory Sciences or Mathematics course listings under degree requirements in this catalog.)	5	0	5
†Technical Electives	6	0	6
MGT 4330 Supervision	3	3	3
			17

*Prerequisite or corequisite required; check course description.

NOTE: During the admissions process, students are encouraged to obtain a course requirement list from the Program Director or Program Counselor. Courses with the BAF prefix are offered primarily in the evenings and during fall and spring quarters.

†TECHNICAL ELECTIVES

After consultation with the advisor, students choose 15 hours from technical electives below:

BAF 4303 International Banking	3	0	3
BAF 4308 Contemporary Issues in Banking	3	0	3
BAF 4310 Investments and Funds Management	3	0	3
BAF 4311 Commercial Loan Officer Development	3	0	3
BAF 4314 Real Estate Finance	3	0	3
BAF 4316 Trust Business	3	0	3
BAF 4320 Deposit Operations	3	0	3
BAF 4322 Trust Operations	3	0	3
BAF 4324 Securities Processing	3	0	3
*BUS 2306 Business Law III	3	0	3
*ECO 2306 Economics III	3	0	3
*EDP 3324 Advanced Microcomputer Operations	3	0	3
*EDP 4314 Systems and Procedures	3	0	3
FIN 4300 Analyzing Financial Statements	3	0	3
FIN 4390 Personal Money and Financial Management II	3	0	3
INT 3300 Introduction to International Business	3	0	3
SEC 3320 Personal Projection	3	0	3
SSH 4504 Security Problems and Practices	5	0	5

Bookkeeping/Clerical (T150)

The Bookkeeping/Clerical curriculum prepares students to enter occupations which require training in both bookkeeping and clerical skills; it provides an educational program for individuals wanting training to work in small businesses and other areas where a diversification of skills is needed; and it provides opportunities for individuals wanting to fulfill professional or general interests, as well as for those individuals interested in upgrading or retraining.

Students develop knowledge and skills in areas such as maintaining journals and ledgers, preparing financial statements, submitting tax forms, preparing cost data, typing, managing records, operating business machines, and other basic office skills.

Through knowledge and skills, students are able to perform bookkeeping and clerical activities and, through the development of personal competencies and qualities, graduates will be able to enter business and industry as a bookkeeper or clerk in a variety of areas.

The Associate in Applied Science Degree—Bookkeeping/Clerical will be awarded by the College upon completion of this program.

For more information, call the Program Director - 704/342-6545, weekdays between 7:30 a.m. to 4:30 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604 Principles of Accounting I	5	2	6
*ENG 1504 English Composition I	5	0	5
§FIN 3314 Business Mathematics I	3	0	3
SEC 3404 Keyboarding	3	2	4
			18

SECOND QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 1605 Principles of Accounting II	5	2	6
*†ENG 3405 Technical English II	4	0	4
§*FIN 3315 Business Mathematics II	3	0	3
*SEC 3405 Document Formatting I	3	2	4
			20

THIRD QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 2626 Intermediate Accounting I	5	2	6
*EDP 3324 Advanced Microcomputer Operations	2	2	3
*EDP 3215 Microcomputer Software Lotus 1-2-3	1	2	2
*SEC 3406 Document Formatting II	3	2	4
SEC 4370 Records Management	3	0	3
			18

FOURTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 2627 Intermediate Accounting II	5	2	6
*ACC 4425 Taxes—Business and Fiduciary	3	2	4
*SEC 4407 Document Production	3	2	4
SEC 3104 Electronic Calculations	0	2	1
Elective - Math or Laboratory Science	3	0	3
			18

FIFTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 3500 Small Business Accounting	5	0	5
*ACC 4414 Microcomputer Accounting I	2	4	4
ECO 2304 Economics I	3	0	3
*FIN 4334 Business Finance I	3	0	3
Elective - Humanities	3	0	3
			18

SIXTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 4415 Microcomputer Accounting II	2	4	4
BUS 2304 Business Law I	3	0	3
ECO 2305 Economics II	3	0	3
SPH 1300 Oral Communications	3	0	3
Elective - Technical	3	0	3
			16

Total Credit Hours 108

*Prerequisite or corequisite required; check course description.

§MAT 1504, MAT 1505 or MAT 1514 may be taken if student has met placement test requirements.

†ENG 1505 is recommended for students who may later decide to transfer to a senior institution.

TECHNICAL ELECTIVES
Math or Laboratory Science Electives - MAT, BIO, CHM, GEL, GEO, or PHY prefixes.

HUMANITIES ELECTIVES - ART, DRA, ENG, FRE, GER, HUM, MUS, PHI, SPA or SPH prefixes.

Students may select three hours from the following courses, with the approval of an adviser.

*ACC 4284 Cooperative Work Experience I
*ACC 4285 Cooperative Work Experience II
ACC 4308 International Accounting
ACC 4434 Taxes—Individual
BUS 1400 Introduction to Business
*BUS 2305 Business Law II
BUS 3304 Business Statistics
*COE 3100 Introduction to Cooperative Education
EDP 3310 Microcomputer Operations
EDP 3405 Microcomputer Programming: BASIC
FIN 3303 Personal Investing
FIN 4303 Personal Estate Planning
*FIN 4335 Business Finance II
FIN 4317 Financial Statement Analysis
FIN 4350 Personal Money and Financial Management I

Business Administration (T018)

The Business Administration curriculum is designed to prepare students for entry into middle-management occupations in various businesses and industries. The curriculum provides an overview of the business and industrial world—its organization and management.

The purpose of the curriculum will be fulfilled through courses designed to develop competency in understanding the principles of organization and management in business operations, utilizing modern techniques to make decisions, understanding the economy through study and analysis of the role of production and marketing, communicating orally and in writing, and interpersonal relationships.

Through these skills and through development of personal competencies and qualities, graduates will be able to function effectively in middle-management activities in business or industry.

The Associate in Applied Science Degree - Business Administration will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6238, weekdays between 8 a.m. and 4:30 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
BUS 1500	Introduction to Business	5	0	0	5
BUS 3300	Human Relations I	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
*ENG 1504	English Composition I	5	0	0	5
					16

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
BUS 2304	Business Law I	3	0	0	3
*EDP 3324	Advanced Microcomputer Operations	2	2	0	3
††ENG 3405	Technical English II **or**				
ENG 1505	English Composition II	4	0	0	4
††FIN 3314	Business Mathematics I	3	0	0	3
MGT 2314	Principles of Management	3	0	0	3
					16

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS 2305	Business Law II	3	0	0	3
ACC 1604	Principles of Accounting I	5	2	0	6
††FIN 3315	Business Mathematics II	3	0	0	3
MGT 4330	Supervision **or**				
MGT 3331	Preparing Women as Managers	3	0	0	3
**Humanities Elective		3	0	0	3
					18

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS 3304	Business Statistics	3	0	0	3
ECO 2304	Economics I	3	0	0	3
MGT 3303	Small Business Management	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
*ACC 1605	Principles of Accounting II	5	2	0	6
					18

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
ECO 2305	Economics II	3	0	0	3
MGT 4331	Administrative Office Mgmt	3	0	0	3
MGT 4332	Human Resources Mgmt I	3	0	0	3
MKT 1304	Marketing I	3	0	0	3
†Technical Electives		6	0	0	6
					18

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS 4201	Business Admin. Cooperative Education	0	0	20	2
*ECO 2306	Economics III	3	0	0	3
*MGT 4337	Human Resources Mgmt II	3	0	0	3
*MGT 4338	Labor Management Relations	3	0	0	3
*MGT 4333	Intro to Industrial Management	3	0	0	3
†Technical Elective		3	0	0	3
					17

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS 4202	Business Administration Cooperative Education	0	0	20	2
*MGT 4334	Management Seminar	3	0	0	3
GEO 1614	Intro to Physical Geography **or**				
*MAT 1504	College Algebra **or**				
MAT 3504	Technical Mathematics	5	0	0	5
†Technical Elective		3	0	0	3
					13

Total Credit Hours 116

TECHNICAL ELECTIVES

It is recommended that students planning to concentrate in General Management select courses from the following:

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS 3305	Human Relations II	3	0	0	3
*BUS 3308	Business Statistics II	3	0	0	3
BUS 4340	Consumer Credit **or**	3	0	0	3
BUS 4341	Commercial Credit				
INT 3300	Intro to International Business	3	0	0	3
*FIN 4334	Business Finance I	3	0	0	3
*MKT 4325	Sales Management	3	0	0	3

It is recommended that students planning to concentrate in Human Resources Management select courses from the following:

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS 2306	Business Law II	3	0	0	3
*BUS 3305	Human Relations II	3	0	0	3
INS 3340	Principles of Risk/Insurance	3	0	0	3
*MGT 43xx	Training and Development	3	0	0	3
*MGT 4357	Compensation Management	3	0	0	3
SSH 3504	Occupational Safety/Health I	4	2	0	5

(continued)

It is recommended that students planning to concentrate in Administrative Office Management select courses from the following:

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BUS	2306	Business Law III	3	0	0	3
*FIN	4334	Business Finance I	3	0	0	3
*FIN	4335	Business Finance II	3	0	0	3
*MGT	4362	Advanced Admin. Office	3	0	0	3
SEC	3312	Word Processing	2	2	0	3
SEC	4370	Records Management	2	2	0	3
SEC	5200	Keyboarding	1	2	0	2

†† MAT 1504, MAT rc1505, ENG 1505 are recommended for students planning to transfer to senior institutions.

*Prerequisite or corequisite required; check course description.

**Students may select any humanities course from the Humanities section, page x, of the catalog.

Civil Engineering Technology (T038)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board of Engineering and Technology (TAC/ABET).

The Civil Engineering Technology curriculum provides the specialized background and related theory for technicians who work primarily with architects and engineers in the field of construction. The civil engineering technician carries out many of the planning and supervisory tasks necessary in the construction of transportation systems such as highways, pipelines, railroads, airfields, and transmission lines; structures for residential and commercial buildings, bridges, dams, and power plants; and water and waste treatment systems. The graduate may perform job tasks in planning, drafting, estimating, supervising, inspecting, or managing construction projects. Other duties might include ordering materials, interpreting plans and specifications, structural detailing and drafting work, and making engineering computation of earthwork, storm drainage, and property surveys.

Upon graduation from this program, the civil engineering technician may qualify for various jobs such as surveying instrumentation and/or party chief, field or laboratory materials tester, construction foreman, field engineering technician or superintendent, expeditor, manager, estimator, construction materials or equipment salesperson, inspector, drafter or structural detailer. Graduates of this program may receive credit toward qualifying to be a land surveyor. They may also continue their education toward a bachelor's degree in engineering technology.

The Civil Engineering Technology program is a comprehensive program providing classroom and laboratory experiences in the practical application of both fundamental and specialized civil engineering technology principles. Courses in drafting, architectural technology and civil engineering technology, complemented by courses in mathematics, physics, computer programming, and communications give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized civil engineering technology courses that furnish concentrated study in the practical application of modern technological knowledge and skills needed in today's construction industry.

This program is designed to produce civil engineering technicians with sound knowledge and skills in building technology, construction practices, and surveying fundamentals. A balance between classroom, lab, field, and computer activities provides the experience necessary for a successful career in Civil Engineering Technology.

The Associate in Applied Science Degree—Civil Engineering Technology will be awarded by the College upon completion of this program.

For more information, contact the Program Counselor - 704/342-6881, the Civil Engineering Technology Program Director - 704/342-6578, or the Department - 704/342-6557, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
CIV	3101	Engr. and Surveying Tech Seminar	1	0	1
CIV	3306	Constr. Materials & Methods	2	3	3
ARC	3334	Architectural Drafting I - Basic	1	6	3
ARC	4200	Architectural Blueprint Reading and Specifications	1	3	2
ENG	1504	English Composition I	5	0	5
MAT	3507	Engineering Technology Math I	5	0	5
					19

SECOND QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ENG	3405	Technical English II	4	0	4
*MAT	3508	Engineering Technology Math II	5	0	5
*PHY	1404	Physics I - Basic Mechanics	3	2	4
*CIV	3407	Surveying I	2	6	4
					17

THIRD QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*MAT	3509	Engineering Technology Math III	5	0	5
*CIV	4407	Surveying II - Route Surveying	2	6	4
*PHY	1405	Physics II - Elastic and Thermal Properties of Matter	3	2	4
*CIV	4300	Codes and Contracts	2	3	3
EDP	3310	Microcomputer Operations	2	2	3
					19

FOURTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*CIV	3414	Statics & Strength of Materials - Basic	3	3	4
*CIV	4408	Surveying III - Boundary Surveying	2	6	4
*ARC	3314	Architectural Computer Drafting I	1	6	3
†Technical Elective					2
Humanities/Arts Elective			3	0	3
					16

(continued)

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIFTH QUARTER					
*CIV	3415	Statics & Strength of Materials - Advanced	3	3	4
*CIV	4302	Plain Concrete & Asphalt	1	6	3
*CIV	4320	Principles of Hydraulics	2	3	3
*CIV	3317	Civil CAD - Site Planning	1	6	3
†Technical Elective					3
					16
SIXTH QUARTER					
*CIV	4319	Soils Technology	2	3	3
*CIV	4305	Construction Estimates	2	3	3
*ARC	4339	Architectural Drafting VI - Structural	1	6	3
*CIV	4425	Structures I	3	3	4
*PHY	1406	Physics III - Electricity & Magnetism	3	2	4
					17
SEVENTH QUARTER					
*CIV	4426	Structures II	3	3	4
*CIV	4307	Construction Project Managment	2	3	3
SPH	1300	Oral Communications	3	0	3
†Technical Elective					3
Behavioral/Social Science Elective					3
					16

Total Credit Hours 120

†TECHNICAL ELECTIVES

CIV	3314	Structural Drafting I (CAD)
CIV	3315	Structural Detailing (CAD)
CIV	4284	Cooperative Work Experience I
CIV	4285	Cooperative Work Experience II
CIV	4314	Surveying VI - Construction Site Planning
CIV	4315	Subdivision Planning and Design
CIV	4414	Surveying IV - Advanced Surveying
CIV	4415	Surveying V - Topographic Mapping
EDP	3405	Microcomputer Programming - BASIC
MAT	4507	Engineering Technology Mathematics IV

Commercial Art/Advertising Design (T070)

CPCC's Commercial Art/Advertising Design curriculum prepares students for a career in communication arts, traditionally known as "Commercial Art."

The skills of the artist, both visual and technical, are directed toward the production of effective advertising, design, and promotional pieces. Advertising agencies, art studios, newspapers, printers, and large corporations and businesses require the services of these artists. The commercial art advertising design field is highly competitive and challenging for the artist who wants to combine business and creative activities.

Students in the Commercial Art/Advertising Design program study advertising, illustration, layout, typography, design, photography, graphic communication, and production.

Commercial artists and advertising designers create and design layouts and artwork for print and audiovisual media. They may design and prepare letterheads, brochures, illustrations, and art for publication; produce package design; and prepare lettering, type, and art for print and audiovisual media.

Job opportunities for graduates of this program may be in art and design studios, advertising agencies, department stores, industrial advertising departments, government agencies, television and film studios, and the printing and publishing industry.

The Associate in Applied Science Degree—Commercial Art/Advertising Design will be awarded by the College upon completion of this program.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ART 1300 Introduction to Art I	3	0	3
ART 1404 General Drawing I	2	4	4
ART 1424 Design I	2	4	4
ART 4201 Commercial Art Orientation I	2	0	2
ENG 1504 English Composition I	5	0	5
			18

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ART 1301 Introduction to Art II	3	0	3
*ART 1405 General Drawing II	2	4	4
*ART 1425 Design II	2	4	4
DFT 3300 Advertising Drafting	2	2	3
PSY 2504 General Psychology	5	0	5
			19

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ADV 4454 Typography and Lettering I	2	4	4
ART 1384 Basic Camera Techniques	3	0	3
*ART 1406 General Drawing III	2	4	4
*ART 1426 Design III	2	4	4
FIN 3314 Business Mathematics I	3	0	3
			18

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ADV 4414 Advertising Production I	2	4	4
*ADV 4424 Advertising Studio I	2	4	4
*ADV 4455 Typography and Lettering II	2	4	4
*ART 1385 Photo Lab Processes I	1	4	3
SOC 1301 Group Interaction	3	0	3
			18

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ADV 1300 Photography for Advertising	1	4	3
*ADV 3401 Illustration I	2	4	4
*ADV 4415 Advertising Production II	2	4	4
*ADV 4425 Advertising Studio II	2	4	4
*ENG 4324 Copywriting I	3	0	3
			18

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ADV 3404 Illustration II	2	4	4
*ADV 4416 Advertising Production III	2	4	4
*ADV 4426 Advertising Studio III	2	4	4
*ENG 4325 Copywriting II	3	0	3
			15

SEVENTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ADV 3414 Computer Assisted Design	2	4	4
*ADV 4427 Advertising Studio IV	2	4	4
*ADV 4436 Advertising Thesis	2	4	4
*PRN 5364 Fundamentals of Offset Printing	1	4	3
			15

Total Credit Hours 121

*Prerequisite or corequisite required; check course description.

Computer Engineering Technology (T040)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

This curriculum enables students to develop skills required to install, service, and maintain computers, microprocessor and computer controlled equipment, and computer peripheral devices.

The curriculum provides training in both the hardware and software areas of the computer field.

A sequence of introductory hardware courses provides students with a strong background in physics, technical mathematics, electricity, electronics, and digital logic circuits and concepts. Advanced course work provides a detailed study of the logic of the central processing unit, the operation of integrated circuits in central processing units, the operation and use of integrated circuit memory devices, and the interfacing of the central processing unit to memory devices. Additional studies cover interfacing the central processing unit to external devices using both serial and parallel data transfer, the operation of large scale integration programmable interface units and their interfacing with the central processing unit, and the operation of computer peripheral devices such as video displays, printers, floppy disk storage systems, magnetic tape units, keyboards, and the techniques of converting signal between the analog and digital forms.

The programming course work provides a sequence of study stressing good program design techniques, structured programming, and program documentation. Rather than being familiar with a large number of programming languages, students are expected to learn well a highly structured language, such as PASCAL, and an assembly language. The importance of assembly language to the understanding of the operation of the central processing unit and the related computer units is stressed. Computer operating system concepts are discussed to provide a unified view of the hardware and software aspects of the computer system.

The Computer Engineering Technology Program at CPCC prepares students with skills and knowledge in both the hardware and software aspects of computers and related systems. It provides a comprehensive background in the practical application of both computer and electronic circuits from the component to the system level. Courses are designed to present technical content in an order that provides students with progressive levels of job-related skills and knowledge. From fundamental programming and electrical circuits, students advance to specialized courses in computer circuits, microprocessors, microcomputer system design, software development, and computer maintenance.

The Associate in Applied Science Degree—Computer Engineering Technology will be awarded by the College upon completion of this program.

For more information contact the Program Counselor - 704/ 342-6881, the Computer/Electrical/Electronics Program Director - 704/ 342-6479, or the Department - 704/ 342-6557, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER					
ELN	3100	Computer/Electrical/ Electronics Seminar	1	0	1
*ELN	3514	Basic Electricity (DC)	3	6	5
EDP	3310	Microcomputer Operations	2	2	3
*MAT	3507	Engineering Technology Math I	5	0	5
*ENG	1504	English Composition I	5	0	5
					19
SECOND QUARTER					
*ELN	3515	Basic Electricity (AC)	3	6	5
EDP	1407	Computer Concepts and PASCAL Programming I	3	2	4
*MAT	3508	Engineering Technology Math II	5	0	5
*ENG	3405	Technical English II**	4	0	4
					18

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
THIRD QUARTER					
*ELN	3404	Electronics I	3	3	4
*ELN	4456	Local Area Networks	3	3	4
*ELN	4464	Electronic Circuit Design (CAD) I	2	6	4
*MAT	3509	Engineering Technology Math III	5	0	5
					17
FOURTH QUARTER					
*ELN	3405	Electronics II	3	3	4
*ELN	4427	Digital Circuits I	3	3	4
*ELN	4525	Electrical Machines I	3	6	5
*PHY	1404	Physics I: Basic Mechanics	3	2	4
					17
FIFTH QUARTER					
*ELN	3414	Industrial Instrumentation	3	3	4
*ELN	4434	Digital Circuits II	3	3	4
*ELN	4547	Microprocessors I	3	6	5
*PHY	1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
					17

(continued)

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 4100 Senior Seminar	1	0	1
*EDP 3410 C Language	3	2	4
*ELN 4557 Microprocessors II	3	6	5
†Technical Elective			3
*SPH 1300 Oral Communications	3	0	3
Behavior/Social Science Elective	3	0	3
			19

SEVENTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 4416 Computer Maintenance I	2	6	4
*ELN 4567 Microcomputer System Design	3	6	5
†ELN Technical Elective			3
PHY 1407 Physics IV: Modern Physics	3	2	4
Art/Humanities Elective	3	0	3
			19

Total Credit Hours 126

*Prerequisite or corequisite required; check course description.

**NOTE: ENG 1505 may be substituted for ENG 3405.

†TECHNICAL ELECTIVES—

*ELN 3414 Industrial Instrumentation
*ELN 4284 Cooperative Work Experience I
*ELN 4285 Cooperative Work Experience II
*ELN 4327 Computer Integrated Systems Project
*ELN 4345 Advanced E/E Topics
*ELN 4414 Introduction to RF Communicators
*ELN 4415 Industrial Programmable Controllers
*ELN 4437 Computer Integrated Manufacturing Systems
*ELN 4444 Network Analysis
*ELN 4454 Data & Computer Communications I
*ELN 4455 Data & Computer Communications II
*ELN 4465 Electronic Circuit Design (CAD) II
*ELN 4468 Advanced Microprocessors
*EDP 3411 Advanced C Language Programming
DFT 3400 Electrical Electronics Computer Aided Drafting
*MAT 4507 Engineering Technology Math IV

Computer Operations (V012)

The Computer Operations curriculum prepares students for gainful employment as computer operators. Students develop knowledge and skills in areas such as data processing concepts and equipment, computer console operations, and data processing applications with related study in mathematics, communications, and business-related courses.

Graduates may find employment in businesses and industries as computer and terminal operators or other related jobs in the computer operations area.

An interview with a program counselor or faculty adviser for Computer Operations is required before entering this program. All prerequisites and corequisites must be met before enrolling in a particular class.

A Diploma in Computer Operations will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Computer and Information Systems Department - 704/342-6549, or the Program Counselor - 704/342-6881.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER**

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
EDP 1500	Computer Literacy	5	0	5
FIN 3314	Business Mathematics I	3	0	3
*EDP 5613	Computer Operations I	5	2	6
BUS 1500	Introduction to Business	5	0	5
				19

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*EDP 5614	Computer Operations II	5	2	6
ACC 3600	General Accounting	5	2	6
*EDP 5424	Programming I - Operators	3	2	4
				16

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*EDP 5524	General Data Processing Applications	3	4	5
*EDP 4314	Systems and Procedures	3	0	3
EDP 5615	Computers Operations III	5	2	6
*ENG 1504	English Composition I	5	0	5
				19

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*EDP 5616	Computer Operations IV	4	4	6
‡*EDP 5425	Programming II—Operators ‡ In lieu of the designated course, EDP 5425 Programming II - Operators, EDP 5284 Cooperative Work Experience I, and EDP 5285 Cooperative Work Experience II can be substituted.	3	2	4
SPH 1300	Oral Communications	3	0	3
†General Education Elective		3	0	3
				16

Total Credit Hours 70

*Prerequisite or corequisite required; check course description.

†GENERAL EDUCATION ELECTIVES—
Courses must come from the areas of communications (English), applied sciences, and/or applied social studies.
Suggestions are:

BUS 3300 Human Relations
ECO 3300 Introduction to Economics
ENG 3405 Technical English II

***NOTE:* SEC 5200 Keyboarding is recommended for students who have not had a typing course in high school or post-secondary school.

Computer Programming, Business (T022)

The Business Computer Programming curriculum prepares students for gainful employment as computer programmers. Students develop knpwledge and skills in areas such as computer and systems theories and concepts, data processing techniques, business operations, logic, flow charting, programming procedures, languages and types, and uses and operation of equipment.

Entry-level jobs as computer programmer and computer programmer trainee are available. With experience and additional education, graduates may enter jobs such as data processing manager, computer programmer manager, systems analyst, and systems manager.

The Associate in Applied Science Degree—Business Computer Programming will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Computers and Information Systems Department - 704/342-6549, or the Program Counselor - 704/342-6881.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
EDP 1500 Computer Literacy	5	0	5
EDP 3514 Programming Logic and COBOL I	3	4	5
*ENG 1504 English Composition I	5	0	5
			15
SECOND QUARTER			
EDP 3515 Programming Logic and COBOL II	3	4	5
ENG 3405 Technical English II	4	0	4
MAT 3504 Technical Mathematics I	5	0	5
*EDP 4425 Computer Systems I	3	2	4
			18
THIRD QUARTER			
*EDP 4435 Computer Systems II	3	2	4
*EDP 4314 Systems and Procedures	3	0	3
*EDP 3516 Programming Logic and COBOL III	3	4	5
ACC 1604 Principles of Accounting I	5	2	6
			18
FOURTH QUARTER			
*EDP 4517 Batch Data Processing Appl.	3	4	5
EDP 4444 RPG Programming **or**			
EDP 3405 Microcomputer Programming—BASIC	3	2	4
*ACC 1605 Principles of Accounting II	5	2	6
			15
FIFTH QUARTER			
*EDP 4445 Advanced RPG Programming, **or**			
*EDP 3406 Microcomputer Programming—Advanced BASIC	3	2	4
†Technical Elective			3
MAT 3505 Technical Mathematics II	5	0	5
ACC/BUS/MKT/FIN Electives			6
			18

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SIXTH QUARTER			
*EDP 4516 CICS	3	4	5
*EDP 4515 Applied Business Systems and Data Bases	5	0	5
†Technical Elective			4
ACC/BUS/MKT/FIN Elective			3
			17
SEVENTH QUARTER			
Social Sciences/Humanties Elective			3
*EDP 4518 Real Time Data Processing Application	3	4	5
SPH 1300 Oral Communications	3	0	3
†Technical Elective			3
ECO 3300 Introduction to Economics	3	0	3
			17

Total Credit Hours 118

*Prerequisite or corequisite required; check course description.

†RECOMMENDED TECHNICAL ELECTIVES:

EDP	3215	Microcomputer Software—LOTUS 1-2-3
EDP	3217	Microcomputer Software—Data Base
EDP	3310	Microcomputer Operations
EDP	3324	Advanced Microcomputer Operations
EDP	3335	Microcomputer Programming—MS-DOS
EDP	3407	Programming Business Applications for Microcomputers
EDP	3410	C Language
EDP	3411	Advanced C Language Programming
EDP	3440	Assembly Language
EDP	4284	Cooperative Work Experience I
EDP	4285	Cooperative Work Experience II
EDP	4546	Programming Business Applications in RPG

Correctional and Juvenile Services (T102)

The Correctional and Juvenile Services curriculum prepares students in the legal, philosophical, technical, and practical aspect of Correctional and Juvenile Law Enforcement. Specific objectives of the curriculum are to develop competency in the following areas: the principles and application of criminal law, the psychology of human behavior, the sociology of social problems, law enforcement in the community, the development of skills in oral and written communications, and an understanding of human relations as successfully employed in Correctional and Juvenile Law Enforcement.

A Correctional and Juvenile Services career offers individuals an opportunity to contribute to the safety and welfare of society. Graduates of the Correctional and Juvenile Services curriculum have a variety of career opportunities available to them. They work in such diverse areas as juvenile training schools, courts, adult prisons, county jails, community-based alternative programs, and the probation and parole fields. Such careers require individuals with a broad perspective capable of critical and logical thinking.

Job opportunities include: Juvenile Detention Counselor, Youth Officer, Training School Counselor, Adult Probation and Parole Intake Officer, Group and Community Organizations Worker, Rehabilitation Officer, Training School House Parent, Correctional Officer, Municipal and County Jailer, Intensive Surveillance Officer.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
MAJOR COURSES				
CSC 3500 Intro. to Corrections	5	0	0	5
CSC 3501 Correctional Psychology	5	0	0	5
CSC 3504 Juvenile Justice System	5	0	0	5
CSC 3505 Victimology	5	0	0	5
CSC 3507 Criminal Personality and Behavior	5	0	0	5
CSC 3508 Drugs, Society and Crime	5	0	0	5
CSC 3509 Court Intake	5	0	0	5
CSC 3510 Women in the Criminal Justice System	5	0	0	5
CSC 3520 Jail Operations and Management	5	0	0	5
*CSC 3524 Probation and Parole	5	0	0	5
CSC 4514 Corrections: Community-Based Programs	5	0	0	5
PSC 3510 Criminal Law	5	0	0	5
	60	0	0	60
RELATED COURSES				
EDP 3310 Microcomputer Operations	2	2	0	3
CSC 3300 Corrections—Policies and Procedures	3	0	0	3
HSA 3421 Helping and Behavioral Stress	4	0	0	4
†HSA 3604 Helping Relationship—Technique	3	0	9	6
**HED 1204 Standard First Aid	1	2	0	2
	13	4	9	18

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
GENERAL EDUCATION				
*ENG 1504 English Composition I	5	0	0	5
*ENG 1505 English Composition II	5	0	0	5
PSY 2504 General Psychology	5	0	0	5
SPH 1300 Oral Communications	3	0	0	3
Elective (Natural Science or Mathematics*)	5	0	0	5
	23	0	0	29

Total Credit Hours........ 107

ELECTIVES: (one from computational) 6

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Natural Science or Mathematics:*				
BIO 1500 Biological Science	3	4	0	5
BIO 1501 General Botany	3	4	0	5
BIO 1502 General Zoology	3	4	0	5
BIO 2300 Genetics	3	0	0	3
BIO 2304 Human Nutrition	3	0	0	3
CHM 1500 Introductory Chemistry	4	2	0	5
GEL 1604 Physical Geology	5	2	0	6
MAT 1504 College Algebra I	5	0	0	5
Computational:				
ACC 1604 Principles of Accounting I	5	2	0	6
FIN 3303 Personal Investing	3	0	0	3
FIN 3314 Business Mathematics I	3	0	0	3
FIN 4350 Personal Money & Financial Management I	3	0	0	3
MAT 1504 College Algebra I	5	0	0	5
MAT 3501 Mathematics for Public Safety	5	0	0	5

*Prerequisite or corequisite required; check course description.

†HSA 3604 is a clinical internship course which will be taken by students who have completed at least 50 credit hours in the Correctional Services Program.

Note: During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor.

**Students may take ENG 2308 in lieu of HED 1204.

Data Entry Operations (V129)

The Data Entry Operations curriculum prepares students for employment in the field of data preparation and entry. Through study of data descriptions and formats, interpretation of source documents, and experience in using data entry devices, they will develop the knowledge and skills for employment as data entry operators.

A Certificate will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Computers and Information Systems Department office - 704/342-6549, or the Program Counselor - 704/342-6881, weekdays between 8 am and 5 pm.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
†EDP 5901 Data Entry I	4	15	9
EDP 5201 CRT Use in Business Applications	2	0	2
EDP 3310 Microcomputer Operations	2	2	3
FIN 3314 Business Mathematics I	3	0	3
			17
SECOND QUARTER			
†*EDP 5902 Data Entry II	4	15	9
EDP 3324 Advanced Microcomputer Operations	1	4	3
ENG 5500 Communication Skills	5	0	5
			17

Total Credit Hours 34

*Prerequisite or corequisite required; check course description.

†Evening students should take EDP 5601 Data Entry I-A, EDP 5602 Data Entry I-B and II-A, and EDP 5603 Data Entry II-B, instead of EDP 5901 Data Entry I and EDP 5902 Data Entry II.

Dental Assisting (V011)

The Dental Assisting curriculum prepares graduates to assist the dentist in providing treatment services. Functions performed by the dental assistant include dental health teaching, preparing dental materials to be used, preparing the patient, taking dental x-rays, caring for dental supplies and equipment, passing instruments and materials to the dentist, making appointments, maintaining patient records, and other office management procedures. Graduates may practice in dental settings such as dentists' offices, dental clinics, public health clinics, federal service clinics, dental schools, and state health departments.

This curriculum prepares the graduate for certification as a Certified Dental Assistant by the Certifying Board of the Dental Assisting Board, Incorporated.

Individuals desiring a career in dental assisting should, if possible, take biology, mathematics, and typing courses prior to entering the program.

A Diploma in Dental Assisting will be awarded by the College upon completion of this program.

The arithmetic, English, and reading placement tests are required prior to entry into the program.

For more information or answers to questions, call the Program Director - 704/342-6901, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*DEA 5201	Microbiology for Dental Auxiliaries	2	0	0	2
*DEA 5400	Anatomy for Dental Auxiliaries	4	0	0	4
*DEA 5502	Introduction to Dental Assisting	2	6	0	5
*DEA 5700	Dental Materials	3	8	0	7
*ENG 1504	English Composition I	5	0	0	5
					23

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*DEA 5301	Office Emergencies and Pharmacology	3	0	0	3
*DEA 5303	Oral Health Education	2	0	3	3
*DEA 5514	Radiology	2	6	0	5
*DEA 5724	Clinical Procedures I	2	6	6	7
HSA 5200	Human Relations	2	0	0	2
					20

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*DEA 5202	Oral Pathology	2	0	0	2
*DEA 5334	Dental Office Management	3	0	0	3
*DEA 5425	Clinical Procedures II	3	2	0	4
*DEA 5543	Dental Office Practice I	0	0	15	5
SPH 1300	Oral Communications	3	0	0	3
					17

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*DEA 5104	Seminar	1	0	0	1
*DEA 5544	Dental Office Practice IIA	0	0	15	5
*DEA 5545	Dental Office Practice IIB	0	0	15	5
EDP 3310	Microcomputer Operations	2	2	0	3
					14

Total Credit Hours 74

*Prerequisite or corequisite required; check course description.

Dental Hygiene (T054)

This program is accredited by the Commission on Dental Accreditation of the American Dental Association.

The Dental Hygiene curriculum prepares graduates to take patient histories, teach oral hygiene, clean teeth, take X-rays, and apply preventive agents under the supervision of a dentist. Dental hygienists may be employed in dentists' offices, clinics, schools, public health agencies, industry, and educational institutions.

Graduates are eligible to take the Dental Hygiene National Board Examination, which is administered by the National Board of Dental Examiners; and the State Board Clinical Examination, which is administered by the North Carolina Board of Dental Examiners. A passing grade on both examinations is required for practice as a Registered Dental Hygienist in North Carolina.

Individuals desiring a career in dental hygiene should take biology, algebra, and chemistry courses prior to entering the program. Admission is based upon specific test scores, personal interviews, academic performance, and skills evaluation. Placement tests required are English, algebra, and reading. All students are required to take a certified first aid course before graduation. Advancement studies courses may be required before admission to the program for some students.

An Associate in Applied Science Degree—Dental Hygiene will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6431, weekdays between 9 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
BIO 1504	Anatomy and Physiology I	3	4	0	5
CHM 3502	Chemistry for Dental Hygiene	4	2	0	5
*DEN 3401	Dental Anatomy	3	2	0	4
*DEN 3411	Preclinical Dental Hygiene I	2	4	0	4
					18

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*BIO 1505	Anatomy and Physiology II	3	4	0	5
*DEN 3202	Head and Neck Anatomy	2	0	0	2
DEN 3302	Oral Embryology and Histology	3	0	0	3
*DEN 3512	Preclinical Dental Hygiene II	2	6	0	5
*ENG 1504	English Composition I	5	0	0	5
					20

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
BIO 1503	Microbiology	3	4	0	5
*DEN 3203	Office Emergencies	2	0	0	2
DEN 3223	Dental Health Education	1	2	0	2
*DEN 3503	Dental Radiology	3	4	0	5
*DEN 3513	Clinical Dental Hygiene I	2	0	9	5
					19

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*ENG 3405	Technical English II	4	0	0	4
SOC 2514	Introduction to Sociology	5	0	0	5
SPH 1300	Oral Communications	3	0	0	3
MAT 1504	College Algebra I	5	0	0	5
					17

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
BIO 2305	Nutrition	3	0	0	3
*DEN 4305	Periodontology	3	0	0	3
*DEN 4505	Dental Materials	3	4	0	5
*DEN 4715	Clinical Dental Hygiene II	2	0	15	7
					18

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*DEN 4206	Chairside Assisting	1	2	0	2
*DEN 4226	Pharmacology	2	0	0	2
*DEN 4306	Pathology	3	0	0	3
*DEN 4406	Community Dental Health I	3	2	0	4
*DEN 4616	Clinical Dental Hygiene III	1	0	15	6
					17

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*DEN 4207	Community Dental Health II	1	0	3	2
DEN 4407	Dental Hygiene Practice	3	0	3	4
*DEN 4617	Clinical Dental Hygiene IV	1	0	15	6
*Humanities Elective		3	0	0	3
					15

Total Credit Hours 124

*Prerequisite or corequisite required; check course description.

Diesel Vehicle Maintenance (V013)

The Diesel Vehicle Maintenance curriculum enables students to develop the basic knowledge and skills needed in diesel vehicle maintenance. Manual skills are developed in practical shop work.

Diesel engines are found in farm and construction equipment, electric generators, trucks, buses, trains, automobiles, and ships. Many diesel mechanics specialize in maintenance and repair of equipment; others specialize in rebuilding engines.

Diesel vehicle maintenance students are instructed through class assignments, discussion, and shop practice to maintain and repair engines, chassis and suspensions, and drive trains used to power farm equipment, construction equipment, buses, and trucks. They use hand tools, precision measuring and testing instruments, and power tools in overhauling and maintaining diesel powered equipment.

A Diploma in Diesel Vehicle Maintenance will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6782, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
DSL 5311	Fleet Maintenance Practices	2	2	3
DSL 5312	Basic Electricity	2	2	3
DSL 5300	Diesel Fundamentals	2	2	3
DSL 5304	Hydraulics and Pneumatics	2	2	3
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
WLD 5210	Basic Oxyacetylene Welding	1	3	2
				18
SECOND QUARTER				
DSL 5313	Electrical - Electronic Testing	2	2	2
DSL 5308	Air Brakes	2	2	3
DSL 5411	Hydromechanical Diesel Injection Systems	2	4	4
DSL 5314	Diesel Engines I	2	4	4
PHY 5304	Applied Physics I	2	2	3
DSL 5204	Diesel Vehicle Maintenance Co-Op I	0	20	2
				19
THIRD QUARTER				
DSL 5206	Cab Heating and Air Conditioning	1	3	2
DLS 5309	Electronic Diesel Injection Systems	2	2	3
DSL 5312	Diesel Engines II	2	4	4
DSL 5409	Heavy Duty Drive Train	2	4	4
HSA 5200	Human Relations	2	0	2
PHY 5305	Applied Physics II	2	2	3
WLD 5220	Basic Electric Arc Welding	1	3	2
				20

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FOURTH QUARTER				
DSL 5310	Diesel Tune-up and Troubleshooting	2	2	2
DSL 5408	Heavy Duty Chassis and Suspension Systems	2	4	4
EDP 3310	Microcomputer Operations	2	2	3
ENG 5500	Communication Skills	5	0	5
*Technical Elective		0	0	3
				18
*TECHNICAL ELECTIVES				
DSL 4400	Automotive Diesel Engines	2	6	4
DSL 5321	Transport Refrigeration	2	2	3
DSL 5205	Diesel Vehicle Maintenance Co-Op II	0	20	2
DSL 5207	Diesel Vehicle Maintenance Co-Op III	0	20	2

Early Childhood Associate (T-073)

Human Services Associate courses have been approved by the
National Board for Certified Counselors (NBCC)
for Professional Counselor (NCC) renewal credit.
Contact the Social Services Program Director - 704/342-6659 for more information.

The Early Childhood Associate curriculum prepares individuals to work with programs and/or centers concerned with the care and development of infants and young children. Through study and application in such areas as child growth and development, physical and emotional needs of children, care and guidance of children, effective classroom practices and curriculum, and communication with children and their parents, individuals will prepare to work effectively in various programs for young children.

Clinical internships in a variety of classroom settings enable students to gain specialized experience to parallel their classroom work.

Job opportunities are available in such areas as day care centers, nursery schools, kindergartens, child development centers, hospitals, rehabilitation clinics, evaluation clinics, camps, public school systems including Chapter I programs for four years olds, and recreation centers.

The Associate in Applied Science Degree — Early Childhood will be awarded by the College upon completion of 111 credit hours as follows: 67 credit hours of Major Courses, 25 credit hours of Related Courses, and 19 credit hours of General Education Courses.

To pursue an Associate in Applied Science Degree in Early Childhood, students should make an appointment for the College placement tests, arranged at the time of application, which are required for entry into the Early Childhood program. Students then will see the program counselor who will advise them before they see the program director. An interview with the program director is required for entrance into the program.

The program is a two-year sequential program. Students will meet with faculty advisors each quarter before registration to obtain permission for the next step in the sequence of required courses and to set up lab experiences. Students may obtain a suggested course sequence list from the program counselor or program director.

For more information or answers to questions, call the Program Director - 704/342-6764, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3501 Introduction to HSA	5	0	0	5
*HSA 5501 Child Development	3	0	6	5
*HSA 3400 Guidance for Young Children	3	0	3	4
HSA 3311 Materials and Activities for the Young Child	3	0	0	3
MUS 1304 Children's Music I	3	0	0	3
				20

SECOND QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3502 Interpersonal Relationships I	5	0	0	5
*HSA 4509 The Preschool Teacher in the Classroom	3	0	6	5
*HSA 3326 Advanced Materials and Activities	3	0	0	3
PSY 2504 General Psychology	5	0	0	5
HED 2301 Human Sexuality in the Helping Skills	3	0	0	3
				21

THIRD QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3340 Client Group Dynamics	3	0	0	3
*HSA 3341 Interpersonal Relationships II	3	0	0	3
*HSA 3403 Introduction to Day Care Administration	3	0	3	4
*HSA 3511 Infant-Toddler Development	3	0	6	5
*MUS 1305 Children's Music II	3	0	0	3
SOC 1500 Sociology of the Family	5	0	0	5
				23

FOURTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 4614 Practical Problems II	2	0	12	6
HSA 3310 The Exceptional Child	3	0	0	3
*ENG 1504 English Composition I	5	0	0	5
HSA 4310 Adult-Child Relations	3	0	0	3
HED 1204 First Aid	1	2	0	2
				19

FIFTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HSA 3421 Helping and Behavioral Stress	4	0	0	4
*HSA 4500 Working With Parents	3	0	6	5
*HSA 3510 School Age Child Care	3	0	6	5
*ENG 3405 Technical English II	4	0	0	4
				18

SIXTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 4508 Seminar in Human Services	1	0	12	5
HED 1203 Cardiopulmonary Resuscitation (CPR)	2	0	0	2
BIO 2308 Nutrition for the Child	3	0	0	3
				10

Total Credit Hours 111

*Prerequisite or corequisite required; check catalog description.

Early Childhood Certificate

The Early Childhood Certificate program trains students to qualify as Teacher Aides in child care centers or school systems. The Certificate program may be used as credit toward the Early Childhood Associate Degree.

SPECIALIZED COURSES

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HSA	3311	Materials and Activities for the Young Child	3	0	0	3
HSA	3400	Guidance for Young Children	3	0	3	4
HSA	4509	The Preschool Teacher in the Classroom	3	0	6	5
HSA	5200	Human Relations	2	0	0	2
HSA	5501	Child Development	3	0	6	5

GENERAL EDUCATION COURSE

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
ENG	5500	Communication Skills	5	0	0	5

*NOTE: CDA and other courses may be substituted at the discretion of the Program Director.

Electrical Engineering Technology (T044)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

This curriculum is designed to train technicians for jobs in the areas of research, design, development, production, maintenance, and sale of electrical and power generation equipment.

The electrical engineering technician may work as a laboratory technician or as an engineering aide in research, design, or development in direct support of an engineer, or as a liaison between the engineer and the skilled craftsperson. The graduate may accept a position in maintenance or sales work requiring a strong background in electrical equipment design and operation.

Electrical Engineering Technology involves the practical application of electrical and electronic fundamentals in the design, fabrication/installation, testing, repair, and maintenance of electrical components, circuits and systems. The electrical engineering technician is concerned with electrical systems, industrial controls, power electronics, analog and digital circuitry, and the application of microcomputers in electrical systems.

The Electrical Engineering Technology program provides a basic background in the practical application of both fundamental and specialized electrical and electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electrical specialty courses that provide concentrated study in various fields of the electrical industry, including industrial controls, planning electrical installations, power electronics, electrical machines and programmable logic controls, and automated manufacturing/robotics.

The Computer/Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics, programmable logic controllers, electrical machines and robotics.

The Associate in Applied Science Degree—Electrical Engineering Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Counselor - 704/342-6881, the Computer/Electrical/Electronics Program Director - 704/342-6479, or the Department - 704/342-6557, weekdays between 8 am and 5 pm.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ELN 3100 Computer/Electrical/Electronics Seminar	1	0	1
*ELN 3514 Basic Electricity (DC)	3	6	5
EDP 3310 Microcomputer Operations	2	2	3
*MAT 3507 Engineering Technology Math I	5	0	5
*ENG 1504 English Composition I	5	0	5
			19

SECOND QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3515 Basic Electricity (AC)	3	6	5
EDP 1407 Computer Concepts and PASCAL Programming I	3	2	4
*MAT 3508 Engineering Technology Math II	5	0	5
*ENG 3405 Technical English II**	4	0	4
			18

THIRD QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3404 Electronics I	3	3	4
*ELN 4444 Network Analysis	3	3	4
*ELN 4464 Electronic Circuit Design (CAD) I	2	6	4
*MAT 3509 Engineering Technology Math III	5	0	5
			17

FOURTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3405 Electronics II	3	3	4
*ELN 4427 Digital Circuits I	3	3	4
*ELN 4525 Electrical Machines I	3	6	5
*PHY 1404 Physics I: Basic Mechanics	3	2	4
			17

FIFTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3414 Industrial Instrumentation	3	3	4
*ELN 4401 Planning Electrical Installations	3	3	4
*ELN 4526 Electrical Machines II	3	6	5
*PHY 1405 Physics II: Electrical and Thermal Properties of Matter	3	2	4
			17

SIXTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 4100 Senior Seminar	1	0	1
*ELN 4326 Electrical/Electronics Project	1	6	3
*ELN 4415 Industrial Programmable Controllers	3	3	4
SPH 1300 Oral Communications	3	0	3
†ELN Technical Elective			3
Behavioral/Social Science Elective	3	0	3
			17

(continued)

SEVENTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 4505 Power Electronics	3	6	5
*ELN 4436 Systems Correction Procedures	3	3	4
†ELN Technical Elective			3
*PHY 1407 Physics IV: Modern Physics	3	2	4
Art/Humanities Elective	3	0	3
			19

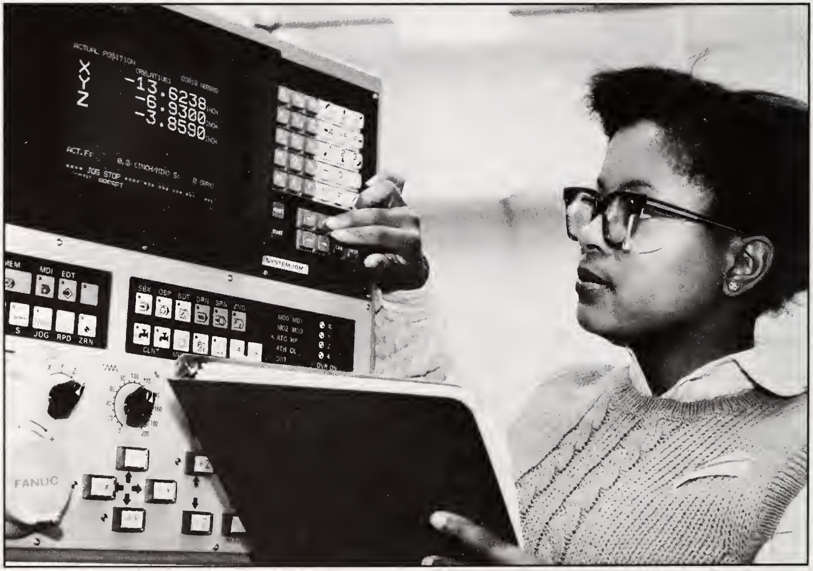
Total Credit Hours 124

*Prerequisite or corequisite required; check course description.

**NOTE: ENG 1505 may be substituted for ENG 3405

†TECHNICAL ELECTIVES:

DFT	3400	Electrical/Electronics Computer-Aided Drafting
*ELN	4284	Cooperative Work Experience I
*ELN	4285	Cooperative Work Experience II
*ELN	4345	Advanced Electrical/Electronics Topics
*ELN	4434	Digital Circuits II
*ELN	4437	Computer Integrated Manufacturing Systems
*ELN	4465	Electronic Circuit Design (CAD) II
*ELN	4547	Microprocessors I
*ELN	4557	Microprocessors II
*ELN	4567	Microcomputer System Design
*MAT	4507	Engineering Technology Math IV


ACTUAL POSITION
X -13.6238
Y -6.9300
Z -3.8590
JOG STOP
SYSTEM 10M
MEM MDI EDT
JOG RPD ZRN
SBK OSP BDT DRN SPN ZNG
FANUC

Electrical Installation and Maintenance (V018)

The Electrical Installation and Maintenance curriculum is designed to provide a training program in the basic knowledge and practices involved in the electrical trades. A large segment of the program is laboratory and shop instruction designed to give students practical knowledge and application experience in the fundamentals taught in class.

The graduate of this curriculum is qualified to enter an electrical trade as an on-the-job trainee or apprentice, assisting in the layout, installation, check-out and maintenance of systems in residential, commercial or industrial settings.

A Diploma in Electrical Installation and Maintenance will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6672, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
ELC 5400 Direct Current	2	6	4
ELC 5401 Basic Calculations for Electricians	4	0	4
ELC 5410 Residential Wiring I	3	3	4
PHY 5304 Applied Physics I	2	2	3
HSA 5200 Human Relations	2	0	2
			17
SECOND QUARTER			
*ELC 5402 Alternating Current	2	6	4
*ELC 5425 Residential Wiring II	2	6	4
ELC 5200 Electrical and Building Trades Blueprint Reading	1	2	2
ELC 5450 Machines & Control I	2	6	4
ENG 5500 Communication Skills	5	0	5
			19

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
THIRD QUARTER			
*ELC 5455 Machines & Controls II	2	6	4
ELC 5404 Commercial & Industrial Wiring I	2	6	4
ELC 5310 Electrical Schematics	2	3	3
ELC 5426 Programmable Controllers I	2	6	4
AHR 5314 Automatic Controls	2	3	3
			18
FOURTH QUARTER			
ELC 5403 Commercial & Industrial Wiring II	2	6	4
*ELC 5411 Industrial Electronics	2	4	4
*ELC 5302 Instrumentation	2	3	3
*ELC 5427 Programmable Controllers II	2	6	4
WLD 5520 Basic Electric Arc Welding	1	3	2
			17

Total Credit Hours 71

*Prerequisite required; check course description.

Electronics Engineering Technology (T045)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

The Electronics curriculum provides a basic background in electronic-related theory, with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may work as assistants to engineers or as liaisons between engineers and skilled craftspersons.

The electronic technician will start in one or more of the following areas: research, design, development, production, maintenance, or sales. The graduate may begin as an electronics technician, an engineering aide, laboratory technician, supervisor, or equipment specialist.

Electronics Engineering Technology involves the practical application of electrical and electronic fundamentals of design, fabrication, manufacturing, testing, repair and maintenance of electronic components, circuits, and systems. The electronics engineering technician is concerned with analog and digital circuitry, microprocessors, microcomputers, and their practical application in modern industrial applications.

The Electronics Engineering Technology curriculum provides a basic background in the practical application of both fundamental and specialized electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electronic specialty courses that provide concentrated study in various fields of the electronic industry, including computer-electronics, microprocessors, systems maintenance, data communication, robotics, and printed circuit board layout and design using CAD.

The Computer/Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours in order that students may devote as much time as possible to laboratory assignments. These modern facilities include state-of-the-art equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics and robotics.

The Associate in Applied Science Degree—Electronics Engineering Technology will be awarded by the College upon completion of this program.

For more information, contact the Program Counselor - 704/342-6881, the Computer/Electrical/Electronics Program Director - 704/342-6479, or the Department - 704/342-6557, weekdays between 8 am and 5 pm.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ELN 3100	Computer/Electrical/Electronics Seminar	1	0	1
*ELN 3514	Basic Electricity (DC)	3	6	5
EDP 3310	Microcomputer Operations	2	2	3
*MAT 3507	Engineering Technology Math I	5	0	5
*ENG 1505	English Composition I	5	0	5
				19

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3515	Basic Electricity (AC)	3	6	5
EDP 1407	Computer Concepts and PASCAL Programmming I	3	2	4
*MAT 3508	Engineering Technology Math II	5	0	5
*ENG 3405	Technical English II**	4	0	4
				18

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3404	Electronics I	3	3	4
*ELN 4444	Network Analysis I	3	3	4
*ELN 4464	Electronic Circuit Design (CAD) I	2	6	4
*MAT 3509	Engineering Technology Math III	5	0	5
				17

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3405	Electronics II	3	3	4
*ELN 4427	Digital Circuits I	3	3	4
*ELN 4525	Electrical Machines I	3	6	5
*PHY 1404	Physics I: Basic Mechanics	3	2	4
				17

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 3414	Industrial Instrumentation	3	3	4
*ELN 4434	Digital Circuits II	3	3	4
*ELN 4547	Microprocessors I	3	6	5
*PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
				17

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 4100	Senior Seminar	1	0	1
*ELN 4326	Electrical/Electronics Project	1	6	3
†ELN	Technical Elective			4
†ELN	Technical Elective			4
SPH 1300	Oral Communications	3	0	3
Behavioral/Social Science Elective		3	0	3
				18

(continued)

SEVENTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ELN 4436 Systems Correction Procedures	3	3	4
†ELN Technical Elective			4
†ELN Technical Elective			3
*PHY 1407 Physics IV: Modern Physics	3	2	4
Art/Humanities Elective	3	0	3
			18

Total Credit Hours 124

*Prerequisite or corequisite required; check course description.

**NOTE: ENG 1505 May be substituted for ENG 3405

†TECHNICAL ELECTIVES:

DFT 3400 Electrical Electronics Computer-Aided Drafting
*EDP 3410 C Language
*ELN 4254 Laser Technology
*ELN 4284 Cooperative Work Experience I
*ELN 4285 Cooperative Work Experience II
*ELN 4345 Advanced Electrical/Electronics Topics
*ELN 4414 Introduction to RF Communications
*ELN 4415 Industrial Programmable Controllers
*ELN 4416 Computer Maintenance I
*ELN 4437 Computer Integrated Manufacturing Systems
*ELN 4454 Data & Computer Communications I
*ELN 4456 Local Area Networks
*ELN 4465 Electronic Circuit Design (CAD) II
*ELN 4468 Advanced Microprocessors
*ELN 4474 Electro Optics
*ELN 4475 Fiber Optics
*ELN 4485 Microwave Communications
*ELN 4505 Power Electronics
*ELN 4557 Microprocessors II
*ELN 4567 Microcomputer System Design
*MAT 4507 Engineering Technology Math IV

Fashion Merchandising‡ (T-143)

The Fashion Merchandising and Marketing curriculum is designed to provide individuals with fundamental skills in fashion and merchandising activities. Students will become familiar with the properties, characteristics, and construction of fabrics, leather, fur, millinery, wigs, jewelry, and cosmetics. Emphasis will be placed on selling techniques, buying, merchandising, displaying, pricing, stock planning and control.

Employment opportunities as assistant buyers, buyers, fashion coordinators, fashion stylists, indoor display specialists, merchandise clerks, and store managers or owners will be available in department stores and specialty stores, wholesale and manufacturing firms, buying offices, and advertising agencies.

Students actually apply what they have learned in the classroom by planning and implementing live projects and field trips. Through participation in Cooperative Education, students work in their chosen fields gaining valuable job experience and obtaining college credit. Charlotte is a base of operations for national and local retailers and has a large apparel industry located here. The Cooperative Education program works closely with retailers of all sizes and with the Charlotte Apparel Mart.

The Associate in Applied Science Degree — Fashion Merchandising will be awarded by the College upon completion of this program.

For informaton or answers to questions, call the Program Director - 704/342-6529 or 342-6646.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER				
ART 1300 Introduction to Art	3	0	0	3
BUS 1500 Introduction to Business	5	0	0	5
FAS 3300 Introduction to Fashion Merchandising	3	0	0	3
MKT 3320 Fundamentals of Selling	3	0	0	3
MKT 4320 Retailing	3	0	0	3
				17
SECOND QUARTER				
ENG 1504 English Composition I	5	0	0	5
FIN 3314 Business Math I **or**				
MAT 1504 College Algebra	3	0	0	3
MKT 1304 Marketing I	3	0	0	3
MKT 4305 Advanced Selling Skills	3	0	0	3
MKT 4385 Service Marketing	3	0	0	3
				17
THIRD QUARTER				
ENG 3405 Technical English II	4	0	0	4
FAS 3320 Psychology of Fashion	3	0	0	3
FIN 3315 Business Math II	3	0	0	3
MKT 1305 Marketing II	3	0	0	3
MKT 4354 Visual Merchandising	3	0	0	3
				16
FOURTH QUARTER				
BUS 3300 Human Relations I	3	0	0	3
FAS 3310 Retail Advertising and Promotion	3	0	0	3
MKT 4340 Merchandising	3	0	0	3
**General Education (Math or Science)	5	0	0	5
*Technical Elective	2	0	0	2
				16
FIFTH QUARTER				
BUS 3305 Human Relations II	3	0	0	3
EDP 3310 Microcomputer Operations	2	2	0	3
MKT 3204 Cooperative Education I	0	0	20	2
FAS 4310 Store Operations	3	0	0	3
MGT 2314 Principles of Management	3	0	0	3
MGT 4322 Purchasing	3	0	0	3
				17

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
SIXTH QUARTER				
EDP 3324 Advanced Microcomputer Operations	2	2	0	3
MKT 3205 Cooperative Education II	0	0	20	2
MGT 4332 Human Resources Management I	3	0	0	3
MKT 4321 Advertising	3	0	0	3
SPH 1300 Oral Communications	3	0	0	3
*Technical Elective	2	0	0	2
				16
SEVENTH QUARTER				
MKT 3206 Cooperative Education III	0	0	20	2
MGT 3303 Small Business Management	3	0	0	3
MKT 3330 Textiles	3	0	0	3
MKT 4384 Customer Service	3	0	0	3
SPH 2300 Voice and Diction	3	0	0	3
*Technical Elective	3	0	0	3
				17

Total Credit Hours 116

TECHNICAL ELECTIVES-

*Students will select at least 7 credit hours from the following courses:

ADV 4310 Fashion Illustration I	3	0	0	3
FAS 3210 Fashion Show Production	1	2	0	2
FAS 4220 New York Study	1	2	0	2
MGT 3331 Preparing Women as Managers	3	0	0	3
MKT 4325 Sales Management	3	0	0	3
MKT 4355 Channels of Distribution	3	0	0	3
INT 3300 Introduction to International Business	3	0	0	3
INT 3305 International Marketing	3	0	0	3

**GENERAL EDUCATION ELECTIVE - Math or Science. Must be selected from MAT, GEL, BIO, CHM, GEO, or PHY prefixes.

‡Pending State Approval.

Fire Protection Technology (T063)

The Fire Protection Technology curriculum is designed to enable individuals to draw on technical and professional knowledge in making effective decisions concerning fire protection. Through technical education, students acquire specialized knowledge in this field of public service and develop specific competencies for the performance of fire service admininstrative and supervisory duties. The curriculum includes areas such as the scientific understanding of fire hazards and their control, and general courses that prepare graduates to work with people harmoniously.

Opportunities are excellent for the individual with adequate training and ability. Students seeking employment may be hired by governmental agencies, industrial firms, educational organizations, and insurance rating organizations. Employed persons should have opportunities for positions requiring increased skill and responsibility as they increase their job competence.

The Associate in Applied Science Degree—Fire Protection Technology will be awarded by the College upon completion of this program.

Fire Protection Technology is under the Human Services Department. Students may obtain a suggested course sequence list from the program counselor or program director.

For more information or answers to questions, call the Program Director - 704/342-6705, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

MAJOR COURSES			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIP	3301	Fire Prevention Programs and Public Relations	2	2	0	3
FIP	3303	Fire Protection I	3	0	0	3
FIP	3401	Plant Emergency Operations	3	2	0	4
*FIP	3404	Chemistry of Flammable Materials	3	2	0	4
*FIP	3405	Flame Propagation and Material Rating	2	4	0	4
FIP	3406	Arson Investigation I	3	2	0	4
*FIP	3408	Arson Investigation II	3	2	0	4
FIP	4304	Fire Protection Law	3	0	0	3
FIP	4314	Methods of Teaching	3	0	0	3
*FIP	4403	Hydraulics for Fire Protection	3	2	0	4
*FIP	4404	Water Distribution Systems	3	2	0	4
FIP	4405	Sprinkler and Standpipe Systems	3	2	0	4
FIP	4414	Inspection Principles and Building Codes	3	0	3	4
FIP	4423	Portable and Fixed Extinguishing Systems	3	2	0	4
FIP	4424	Automatic Alarm Systems	3	2	0	4
*FIP	4434	Chemical and Radiation Hazards	3	2	0	4
FIP	4444	Fire Fighting Strategy	3	2	0	4
FIP	4454	Building Construction	3	2	0	4
*FIP	4464	Hazardous Material Analysis and Emergency Planning	2	4	0	4
						72

RELATED COURSES			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
ARC	3334	Architectural Drafting I (Basic)	1	6	0	3
EDP	3310	Microcomputer Operations	2	2	0	3
MGT	4330	Supervision	3	0	0	3
MAT	3500	Mathematics for Fire Protection	5	0	0	5
A combination of 15 credit hours chosen from General Studies or from the area of Business, Health, and Technology.						15
						29
GENERAL EDUCATION						
*CEM	3300	Fire Protection Chemistry	3	0	0	3
*ENG	1504	English Composition I	5	0	0	5
*ENG	3405	Technical English II	4	0	0	4
HSA	3421	Helping and Behavioral Stress	4	0	0	4
Humanities/Fine Arts						3
Social/Behavioral Science						5
						24

Total Credit Hours 125

*Prerequisite or corequisite required; check course description.

Food Service Management (T074)

(Chef Training)

The Food Service Management curriculum trains students at the supervisory or "middle management" level in food service with particular emphasis on institutional food service.

In addition to having a sound foundation in the science of food preparation and service, students will develop an understanding of the basic science and principles of quantity food preparation, appreciation of accuracy and the use of standards in production, increased knowledge of the space and equipment requirements for quantity food production and service operations of various types, and some ability to evaluate the effectiveness of the operation of a food service department. Also, students will understand pricing and cost controls, principles of nutrition as applied to institutional menu planning, safe methods of work performance, and appreciation of sanitation and hygiene in a food service operation.

The career opportunities available to a graduate of the Food Service Management curriculum are dietetic assistant, food science supervisor, food service manager, dietary technician, unit manager, and chef-manager. Employment opportunities are available in hospitals, nursing homes, child care centers, college and university food services, food processing manufacturers, food-service contract companies, hotels, city and country clubs, fast food, and commercial restaurants.

The Associate in Applied Science Degree — Food Service Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6301, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 3300 Introduction to Hotel/Restaurant Mgmnt.	3	0	0	3
FSO 3504 Food Preparation I	2	9	0	5
FSO 4200 Basic Equipment Layout & Design	2	0	0	2
FSO 4414 Garde Manger I	2	6	0	4
FSO 4300 Sanitation	3	0	0	3
EDP 5201 CRT Use in Business Applications	2	0	0	2
				19

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
ART 1327 Sculpture I	0	6	0	3
MAT 3504 Technical Mathematics I	5	0	0	5
FSO 3301 Nutrition	3	0	0	3
FSO 3505 Food Preparation II	2	9	0	5
FSO 4407 Baking I	2	6	0	4
HRM 3104 Speaker Seminar I	1	0	0	1
				21

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FRE 1300 Travel French	3	0	0	3
ENG 1504 English Composition I	5	0	0	5
HRM 4302 Hotel/Restaurant Management Related Problems	3	0	0	3
FSO 3506 Food Preparation III	2	9	0	5
FSO 4415 Garde Manger II	2	6	0	4
				20

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
ACC 3500 Small Business Accounting	5	0	0	5
PSY 2504 General Psychology	5	0	0	5
FSO 4304 Food and Labor Cost Controls	3	0	0	3
FSO 4408 Baking II	2	6	0	4
FSO 4208 Cooperative Education	0	0	20	2
				19

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
SPH 1300 Oral Communications	3	0	0	3
FSO 4409 Baking III	2	6	0	4
FSO 4416 Garde Manger III	2	6	0	4
FSO 4506 Food Preparation IV	2	9	0	5
Elective	3	0	0	3
				19

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
ENG 3405 Technical English II	4	0	0	4
HRM 4400 Restaurant Service Management	2	6	0	4
FSO 4419 Baking IV	2	6	0	4
FSO 4426 Garde Manger IV	2	6	0	4
				16

Total Credit Hours 114

Food Service Specialist (V053)

(Chef Training)

The Food Service Specialist curriculum trains students in the art and science of quantity food preparation with particular emphasis on institutional food service. Using a career ladder concept, it is an open-ended curriculum allowing students more flexibility in their training. In addition to development of knowledge and skills in the art and science of food preparation, students must develop an understanding and appreciation of food and equipment purchasing, financial control, record keeping, basic nutrition, and menu planning, and supervision.

A graduate of this curriculum should be qualified for entry into positions as assistant cook, short order cook, cook, chef's assistant, cook manager, baker, assistant baker, and pastry cook. Employment for graduates of this program is found in hospitals, nursing homes, child care centers, college and university food services, school food services, industrial cafeterias, private clubs, airline food services, food processing manufacturers, food service contract companies, and commercial restaurants.

A Certificate will be awarded by the College upon completion of this program. The Certificate may be credited toward the Associate in Applied Science Degree - Food Service Management.

For more information or answers to questions, call the Program Director - 704/342-6301, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
FSO 3504	Food Preparation I	2	9	0	5
HRM 3300	Introduction to Hotel/Restaurant Management	3	0	0	3
FSO 4414	Garde Manger I	2	6	0	4
FSO 4407	Baking I	2	6	0	4
					16
SECOND QUARTER					
FSO 3505	Food Preparation II	2	9	0	5
FSO 4415	Garde Manger II	2	6	0	4
FSO 4408	Baking II	2	6	0	4
FSO 3301	Nutrition	3	0	0	3
FSO 4304	Food and Labor Cost Controls	3	0	0	3
					19

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
THIRD QUARTER					
FSO 3506	Food Preparation III	2	9	0	5
FSO 4416	Garde Manger III	2	6	0	4
FSO 4409	Baking III	2	6	0	4
ART 1327	Sculpture I	0	6	0	3
					16
FOURTH QUARTER					
FSO 3507	Food Preparation IV	2	9	0	5
FSO 4409	Baking IV	2	6	0	4
ENG 1504	English Composition I	5	0	0	5
FSO 4208	Cooperative Education	0	0	20	2
HRM 4400	Restaurant Service Management	2	6	0	4
					20

Total Credit Hours 71

General Office Technology (TO33)

(Four-Quarter Curriculum)

The following courses can be taken in four quarters. These courses are designed for individuals entering, upgrading, or retraining for the comprehensive office technology required in today's business world.

A Basic General Office Certificate will be awarded by the College upon completion of courses in the first and second quarters.

An Intermediate General Office Certificate will be awarded upon completion of quarters one through four.

If a student later decides to do so, the remaining courses in General Office Technology will complete the requirements for the Associate in Applied Science Degree.

Credit by examination for some SEC courses can be arranged by contacting the department head. A suggested sequence of required courses for full-time students is listed below. (Course sequence sheets for part-time and evening students are available from the department or the program counselor.)

For more information or answers to questions, call 704/342-6781, weekdays between 9 a.m. and 4 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER						
FIN	3314	Business Mathemathics I	3	0	0	3
SEC	3305	Editing, Proofreading, and Reference Skills	3	0	0	3
SEC	3311	Receptionist Skills	3	0	0	3
SEC	3320	Personal Projection	3	0	0	3
SEC	3404	Keyboarding	3	2	0	4
						16
SECOND QUARTER						
EDP	3310	Microcomputer Operations	2	2	0	3
SEC	3302	Effective Word Techniques	3	0	0	3
*SEC	3104	Electronic Calculators	0	2	0	1
*SEC	3405	Document Formatting I	3	2	0	4
SEC	4324	Information Processing Concepts	3	0	0	3
						14

			HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
THIRD QUARTER						
ENG	3515	Essentials of Grammar	5	0	0	5
*SEC	3406	Document Formatting III	3	2	0	4
SEC	4370	Records Management	2	2	0	3
SEC	4429	Word Processing I	3	2	0	4
						16
FOURTH QUARTER						
ACC	3600	General Accounting	5	2	0	6
*ENG	1504	English Composition I	5	0	0	5
*SEC	4407	Document Production	3	2	0	4
*SEC	4425	Machine Transcription	3	2	0	4
						17

Total Credit Hours 65

*Prerequisite or corequisite required; check course description.

Graphic Arts (V022)

This curriculum gives students experience with equipment and a working knowledge of methods used in the graphic arts industry. Ample opportunities are provided for them to develop skills in the operation of machines and equipment, and to become familiar with a wide range of graphic processes.

There are many distinct occupations in the graphic arts industry. Graduates will be able to set type by various methods, prepare copy and artwork, proofread, operate presses, understand the photomechanical process, operate bindery equipment, and perform a variety of other graphic arts skills.

Graphic Arts in the United States is the largest industry in terms of the number of manufacturing plants. Over one million people are employed in this field, turning out an annual volume of printed products valued in the billions of dollars. Recent growth has been slightly faster than that of the Gross National Product. With new technology, many of the machines, methods, and processes are changing, so the industry increasingly requires more highly skilled technicians and craftsmen.

A Diploma in Graphic Arts will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6782 or 342-6655, or call the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ENG 5500 Communication Skills	5	0	5
HSA 5200 Human Relations	2	0	2
PRN 5369 Introduction to Graphic Arts	3	0	3
PRN 5401 Copy Preparation I	2	4	4
SEC 5200 Computer Keyboarding	1	2	2
†Technical Elective	0	0	2
			18

SECOND QUARTER			
PRN 5310 Paper and Ink	3	0	3
PRN 5314 Process Camera I	2	2	3
PRN 5365 Stripping I and Platemaking	2	2	3
PRN 5402 Basic Calculations for Printers	4	0	4
PRN 5424 Offset Press I and Bindery	2	4	4
			17

THIRD QUARTER			
*PRN 5315 Process Camera II	2	2	3
*PRN 5425 Offset Press II	2	4	4
*PRN 5435 Offset Stripping II	2	4	4
*PRN 5700 Printing Applications I **or**	2	15	7
*PRN 5371 Printing Applications I—Part A	(2	3	3)
*PRN 5272 Printing Applications I—Part B	(0	6	2)
*PRN 5273 Printing Applications I—Part C	(0	6	2)
			18

FOURTH QUARTER	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PRN 5317 Electronic Publishing & Typesetting	2	2	3
PRN 5301 Printing Management	3	0	3
*PRN 5303 Printing Estimating	3	0	3
*PRN 5409 Color Reproduction	3	2	4
*PRN 5704 Printing Applications II **or**	2	15	7
*PRN 5381 Printing Applications II—Part A	(2	3	3)
*PRN 5282 Printing Applications II—Part B	(0	6	2)
*PRN 5283 Printing Applications II—Part C	(0	6	2)
†Technical Elective	0	0	2
			22

Total credit hours 75

*Prerequisite or corequisite required; check course description.

†TECHNICAL ELECTIVES			
PRN 4204 Graphic Arts Cooperative Lab II	0	20	2
PRN 5207 Graphic Arts Cooperative Lab	0	20	2
PRN 5313 Typesetting I	2	2	3
PRN 5316 Production Screen Printing	2	2	3
*PRN 5319 Electronic Publishing II	2	2	3
*PRN 5320 Computerized Prepress	2	2	3
PRN 5390 Individual Study	3	0	3
PRN 5403 Copy Preparation II	2	4	4

Graphic Arts Management (T026)

The Graphic Arts—Printing Management curriculum prepares students for employment as trainees or assistants to management personnel in printing and related occupations in the graphic arts. This program is designed to provide a broad background of knowledge and a variety of graphic skills leading toward a management position after several years of on-the-job experience in this industry. Instruction will include classroom theory and hands-on experience with composing equipment, graphic camera work, layout and copy preparation, bindery operations, production presswork, and customer service experience.

The Associate in Applied Science Degree—Graphic Arts Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6782 or 342-6655, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
*ENG 1504	English Composition I	5	0	5
PRN 5369	Introduction to Graphic Arts	3	0	3
PRN 5401	Copy Preparation I	2	4	4
PRN 5402	Basic Calculations for Printers	4	0	4
General Education Elective: Social or Behavioral Science				3
				19
SECOND QUARTER				
*ENG 3405	Technical English II	4	0	4
PRN 5310	Paper and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5365	Stripping I and Platemaking	2	2	3
PRN 5424	Offset Press I and Bindery	2	4	4
EDP 3310	Microcomputer Operations	2	2	3
				20
THIRD QUARTER				
BUS 1400	Introduction to Business	3	2	4
*PRN 5315	Process Camera II	2	2	3
*PRN 5425	Offset Press II	2	4	4
*PRN 5435	Offset Stripping II	2	4	4
SPH 1300	Oral Communications	3	0	3
				18
FOURTH QUARTER				
PRN 5301	Printing Management	3	0	3
*PRN 5303	Printing Estimating	3	0	3
*PRN 5409	Color Reproduction	3	2	4
PRN 4311	Printing Sales	3	0	3
General Education Electives:				
Humanities or Fine Arts				3
Natural Science				3
				19
FIFTH QUARTER				
BUS 2304	Business Law I	3	0	3
PRN 4337	Color Separation Techniques and Theory	2	2	3
PRN 5317	Electronic Publishing & Typesetting I	2	2	3
*PRN 5700	Printing Applications I **or**	2	15	7
*PRN 5371	Printing Applications I—Part A	(2	3	3)
*PRN 5272	Printing Applications I—Part B	(0	6	2)
*PRN 5273	Printing Applications I—Part C	(0	6	2)
†Technical Elective				4
				20

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SIXTH QUARTER				
MGT 3303	Small Business Management	3	0	3
MGT 4330	Supervision	3	0	3
*PRN 5704	Printing Applications II **or**	2	15	7
*PRN 5381	Printing Applications II—Part A	(2	3	3)
*PRN 5282	Printing Applications II—Part B	(0	6	2)
*PRN 5283	Printing Applications II—Part C	(0	6	2)
†Technical Elective		4	0	4
				17

Total Credit Hours 113

*Prerequisite or corequisite required; check course description.

†TECHNICAL ELECTIVES

*PRN 4204	Graphic Arts Cooperative Lab II	0	20	2
PRN 5207	Graphic Arts Cooperative Lab I	0	20	2
PRN 5316	Production Screen Printing	2	2	3
PRN 5317	Electronic Publishing II	2	2	3
PRN 5320	Computerized Prepress	2	2	3
PRN 5390	Individual Study	3	0	3
PRN 5403	Copy Preparation II	2	4	4
SEC 5200	Computer Keyboarding	1	2	2

Horticulture (V021)

Students in the Horticulture curriculum are trained in the areas of vegetable, flower, fruit, and ornamental plant production. Subject matter includes soil fertility and its modification, chemicals and their use, varieties of plants, bookkeeping, marketing, plant propagation, greenhouses and their construction, greenhouse management, and all phases of the production of vegetables, flowers and fruits, including bedding plants, potted plants, and nursery stock.

Upon completion of the curriculum, students should be able to set up and operate their own specialized business, as well as manage and operate specialized vegetable, flower, fruit, or nursery enterprises for others.

Students are trained by the use of classroom demonstrations, laboratory projects, and cooperative work experiences. This program emphasizes practical "hands-on" training.

Students completing this program will be awarded a Diploma in Horticulture by the College, and all credit hours can be applied to the Horticulture Technology Degree program.

For more information or answers to questions, call 704/342-6926 or 342-6557.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER				
BIO 1501 General Botany	3	4	0	5
HOR 3308 Introductory Horticulture	2	2	0	3
HOR 3400 Landscape Plants I: Woody	3	2	0	4
HOR 3404 Landscape Plants II: Woody and Herbaceous	3	2	0	4
PME 5211 Small Engine Repair	1	3	0	2
HOR 3111 Horticulture Seminar	1	0	0	1
				19
SECOND QUARTER				
ENG 1504 English Composition I	5	0	0	5
HED 1204 First Aid I	1	2	0	2
HOR 3504 Grounds Maintenance I	3	4	0	5
HOR 3302 Landscape Graphics and Measurements	2	2	0	3
†Related Elective	4	0	0	4
				19
THIRD QUARTER				
COE 3100 Introduction to Cooperative Education	1	0	0	1
HOR 3503 Nursery Technology	3	4	0	5
*HOR 3505 Landscape Gardening	3	4	0	5
HOR 3410 Turf Management	2	4	0	4
HOR 3405 Grounds Maintenance II	2	4	0	4
				19
FOURTH QUARTER				
*HOR 3205 Cooperative Work Experience	0	0	20	2
SPH 1300 Oral Communications	3	0	0	3
HOR 3401 Plant Propagation I	2	4	0	4
†Related Electives				4
				16

Total Credit Hours 73

*Prerequisite or corequisite required; check course description.

†ELECTIVES

Related Electives, Suggested—

All electives must be approved by program director or program counselor and should be selected from:

ACC 3500	Small Business Accounting
BIO 1500	Biological Science
BIO 2300	Genetics
BIO 2500	Introduction to Entomology
BIO 2504	Selected Topics in Biology
BUS 1400	Introduction to Business
CHM 1500	Introduction to Chemistry
EDP 3310	Microcomputer Operations
PME 5214	Small Engine Overhaul

Technical Electives, Suggested—

HOR 3210	Floral Design
*HOR 3304	Computer Aided Landscape Graphics
HOR 3312	Indoor Plants
HOR 3360	Organic Methods in Horticulture
HOR 4101	Senior Seminar
*HOR 4203	Advanced Floral Design
HOR 4400	Arboriculture
*HOR 4404	Plant Propagation II
HOR 4411	Greenhouse Horticulture

Horticulture Technology (T009)

The Horticulture Technology curriculum includes the study and practical application of many varied subjects in the field of horticulture. It consists of identifying and selecting plant materials, propagating, planting, and growing plants; designing basic landscapes, and planting materials at the appropriate places and in the correct manner; properly maintaining plant materials; and managing the nursery, greenhouse, and garden center. In addition, skills are developed in designing and building planters, walks, patios, fences, and other landscape features. This program is designed to provide students with the knowledge, skills, and attitudes that are necessary for independent, creative thinking essential to success in this field.

Graduates of this program find various career opportunities with nurseries, greenhouse operations, garden centers, landscape contractors, landscape maintenance companies, and municipal/governmental agencies. The employee is usually required to carry out various responsibilities depending upon the needs of the employer.

Major jobs for which students are prepared include: Entry Level Jobs—garden center worker, greenhouse worker, groundskeeper, landscape construction worker, landscape worker, lawn service worker, nursery worker, plant propagator, salesperson of horticultural and nursery products, and tree pruner; Advanced Level Jobs— greenhouse superintendent, horticultural specialty grower—field, horticultural specialty grower—inside, landscape drafter, landscape gardener, nursery manager.

The Associate in Applied Science Degree—Horticulture Technology will be awarded by the College upon completion of this program.

For more information on the Horticulture Technology program, call 704/342-6926 or 342-6557.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BIO 1501	General Botany	3	4	0	5
HOR 3308	Introductory Horticulture	2	2	0	3
HOR 3400	Landscape Plants I: Woody	3	2	0	4
HOR 3404	Landscape Plants II: Woody and Herbaceous	3	2	0	4
HOR 3111	Horticulture Seminar	1	0	0	1
					17

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*ENG 1504	English Composition I	5	0	0	5
FIN 3314	Business Mathematics I	3	0	0	3
PME 5211	Small Engine Repair I	1	3	0	2
HOR 3504	Grounds Maintenance I	3	4	0	5
HOR 3302	Landscape Graphics and Measurements	2	2	0	3
					18

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
HED 1204	First Aid I	1	2	0	2
*HOR 3505	Landscape Gardening	3	4	0	5
HOR 3503	Nursery Technology	3	4	0	5
HOR 3410	Turf Management	2	4	0	4
HOR 3405	Grounds Maintenance II	2	4	0	4
					20

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BIO 2500	Introduction to Entomology	3	4	0	5
HOR 3401	Plant Propagation I	2	4	0	4
HOR 3312	Indoor Plants	2	2	0	3
£Behavioral/Social Science Elective		5	0	0	5
					17

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*ENG 3405	Technical English II**	4	0	0	4
CHM 1500	Introductory Chemistry I	3	4	0	5
HOR 4400	Arboriculture	2	4	0	4
†Technical Elective		4	0	0	4
					17

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ACC 3500	Small Business Accounting	5	0	0	5
#Humanities-Fine Arts Elective		3	0	0	3
HOR 4411	Greenhouse Horticulture	2	4	0	4
HOR 4101	Senior Seminar	1	0	0	1
COE 3100	Introduction to Cooperative Education	1	0	0	1
					14

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
HOR 1300	Oral Communications	3	0	0	3
HOR 4404	Plant Propagation II	2	4	0	4
*HOR 3205	Cooperative Work Experience (Co-Op)	0	0	20	2
‡Open Elective		3			3
					12

Total Credit Hours 115

*Prerequisite or corequisite required; check course description.

**NOTE: ENG 1505 may be substituted for ENG 3405.

†SUGGESTED TECHNICAL ELECTIVES:

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BIO 1500	Biological Science	3	4	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
MGT 3303	Small Business Management	3	0	0	3
MGT 4330	Supervision	3	0	0	3
HOR 3210	Floral Design	1	2	0	2
HOR 4203	Advanced Floral Design	1	2	0	2
HOR 3360	Organic Methods in Horticulture	2	2	0	3
*HOR 3304	Computer Aided Landscape Graphics	2	3	0	3

‡OPEN ELECTIVES-
May be any technical or college transfer course.

£SOCIAL - BEHAVIORAL SCIENCE ELECTIVE - to be approved by faculty and adviser.

#ARTS-HUMANITIES ELECTIVE: To be approved by faculty adviser.

Hospital Ward Secretary (V066)

The Hospital Ward Secretary (Clerk) curriculum is designed to prepare students to perform a variety of clerical duties such as maintaining patients' charts, requesting equipment and services for patients, requesting supplies and equipment for the nursing unit, and completing forms correctly.

Employment opportunities are available in doctors' offices, clinics, hospitals, and other health agencies as hospital ward clerks or hospital ward secretaries.

A certificate will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Allied Health Department - 704/342-6928.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER					
MRT 3205	Health Record Procedures I	1	2	0	2
MED 3304	Medical Terminology I	3	0	0	3
SEC 3404	Keyboarding	3	2	0	4
HRC 5300	Orientation to Health Record Clerk	2	2	0	3
					12

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
SECOND QUARTER					
*MRT 3206	Health Records Procedures II	1	2	0	2
*HRC 5401	Unit Clerk Procedures	2	4	0	4
*HRC 5301	Receptionist Skills	2	2	0	3
HRC 5302	Professional Interaction and the Health Worker	3	0	0	3
					12

*Prerequisite or corequisite required. check course description.

Hospitality/Tourism Specialty* (T213)

The Hospitality/Tourism curriculum is designed to familiarize students with all components of the hospitality industry: foodservice, lodging, travel, and recreation. Hospitality will be emphasized as a top priority for promoting tourism and operating tourism-related business. Economics, laws, and management practices are also components of the curriculum. The curriculum includes general education courses in the field of communications and human relations. Work experience in the field is offered to give the student first-hand experience in the industry.

Employment opportunities are available in hotels, motels, bed-and-breakfast establishments, recreational facilities, restaurants, and tourist information centers.

Specific jobs include: sales clerk, desk clerk, waiter/waitress, welcome center attendant, restaurant hostess, and campground attendant. With further training, students may seek a higher level as a management trainee in related fields.

A Certificate will be awarded by the College upon completion of this program. The Certificate may be credited toward the Associate in Applied Science - Travel and Tourism Technology Degree.

For more information or answers to questions, call the Program Director - 704/342-6721, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER				
SEC 3404 Typing I	3	2	0	4
TAT 3300 Introduction to the Travel Industry	3	0	0	3
TAT 3303 Tourist Attractions	3	0	0	3
TAT 4304 World Destinations and Resorts I	3	0	0	3
ENG 1504 English Composition I	5	0	0	5
				18
SECOND QUARTER				
TAT 4304 Hospitality Computer I	3	6	0	5
TAT 4305 World Destinations and Resorts II	3	0	0	3
FSO 3504 Food Preparation I	2	9	0	5
ENG 3405 Technical English II	4	0	0	4
				17
THIRD QUARTER				
TAT 4502 Hospitality Computer II	3	6	0	5
TAT 4307 A History of Beverages	3	0	0	3
TAT 3200 Travel and Tourism Etiquette	2	0	0	2
General Education Elective I	3	0	0	3
Elective	3	0	0	3
				16

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FOURTH QUARTER				
TAT 4503 Hospitality Computer III	3	6	0	5
TAT 4301 Tourism Marketing	3	0	0	3
SPH 1300 Oral Communications	3	0	0	3
HRM 3300 Introduction to Hotel Restaurant Mgmnt.	3	0	0	3
				14
FIFTH QUARTER				
TAT 4306 Group Arranging/Meeting Planning	3	0	0	3
TAT 3302 Surface Transportation	3	0	0	3
TAT 4504 Practicum I	3	0	20	5
General Education Elective II	3	0	0	3
				14

Total Credit Hours 79

*Pending State Approval.

Hotel/Restaurant Management (T025)

The Hotel and Restaurant Management curriculum trains students to work as supervisory and management personnel in hotels, restaurants, and clubs. Areas of study include front office management, accounting, sales promotion, food and beverage control, personnel management, food preparation and service. An internship program is also provided to enable students to acquire experience under the direction of a qualified manager and a College supervisor.

Graduates have opportunity for employment with airlines, colleges, schools, convalescent homes, government services, hospitals, hotels, clubs, and restaurants.

The Associate in Applied Science Degree—Hotel/Restaurant Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6721, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 3300	Introduction to Hotel/Restaurant Management	3	0	0	3
*ENG 1504	English Composition I	5	0	0	5
HRM 3104	Speaker Seminar I	1	0	0	1
BUS 2304	Business Law I	3	0	0	3
SEC 3404	Keyboarding	3	2	0	4
					16

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 4301	Housekeeping Procedures	3	0	0	3
*ENG 3405	Technical English II	4	0	0	4
HRM 4400	Restaurant Service Management	2	6	0	4
FSO 3300	Sanitation	3	0	0	3
HED 1204	Standard First Aid	1	2	0	2
					16

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FSO 3504	Food Preparation I	2	9	0	5
SPH 1300	Oral Communications	3	0	0	3
TAT 3303	History of Beverages	3	0	0	3
**MAT 3504	Technical Mathematics	5	0	0	5
FIP 3201	Fire Protection for HRM & FSO	2	0	0	2
					18

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 4302	Hotel/Restaurant Management Related Problems	3	0	0	3
FSO 4407	Baking I	2	6	0	4
ECO 2304	Economics I	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
					15

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 3105	Speaker Seminar	1	0	0	1
FSO 4200	Basic Equipment Layout & Design	2	0	0	2
TAT 3201	Travel & Tourism Etiquette	2	0	0	2
EDP 5201	CRT Use in Business Applications	2	0	0	2
BUS 3300	Human Relations	3	0	0	3
ART 1327	Sculpture I	0	6	0	3
Elective		3	0	0	3
					16

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 3301	Financial & Legal Aspects	3	0	0	3
ACC 3500	Small Business Accounting	5	0	0	5
FSO 4304	Food & Labor Cost Controls	3	0	0	3
FRE 1300	Travel French	3	0	0	3
HRM 4304	Practicum I	2	0	10	3
					17

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HRM 4200	Topics in Hotel/Restaurant Management	2	0	0	2
FSO 4414	Garde Manger I	2	6	0	4
SSH 3302	Hotel/Motel Security	3	0	0	3
HRM 4305	Practicum II	2	0	10	3
FSO 3301	Nutrition	3	0	0	3
					15

Total Credit Hours 113

*Prerequisite or corequisite required; check course description.

**MAT 1504, MAT 1505 or MAT 1514, MAT 1505 may be taken if student has met requirements.

Industrial Management Technology (T049)

The Industrial Management Technology curriculum is designed to provide students with the ability to function effectively in supervisory and middle-management positions in industry. This program emphasizes study and application in areas such as business and industrial management, production methods and schedules, inventory control, work analysis, motivation techniques and human relations.

The curriculum is designed to prepare graduates to enter supervisory or middle-management positions, to provide an educational program for upgrading or retraining, and to provide an opportunity for individuals wanting to fulfill professional or general interests.

The Associate in Applied Science Degree — Industrial Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call, 704/342-6238 or 342-6646, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER				
*ENG 1504 English Composition I	5	0	0	5
BUS 1500 Introduction to Business	5	0	0	5
BUS 3300 Human Relations	3	0	0	3
BUS 2304 Business Law I	3	0	0	3
				16
SECOND QUARTER				
*ENG 3405 Technical English II **or**				
ENG 1505 English Composition II	4	0	0	4
SSH 3501 Intro to Principles of Safety	4	2	0	5
*MAT 1504 College Algebra I **or**				
MAT 3504 Technical Mathematics	5	0	0	5
*BUS 2303 Business Law II	3	0	0	3
				17
THIRD QUARTER				
*EDP 1525 Intro to Business Computing	4	2	0	5
MGT 2314 Principles of Management	3	0	0	3
ACC 1604 Principles of Accounting I	5	2	0	6
*BUS 3304 Business Statistics I	3	0	0	3
				17
FOURTH QUARTER				
MAT 3516 Intro/Statistical Process Control	5	0	0	5
*ACC 1605 Principles of Accounting II	5	2	0	6
*MGT 4333 Intro to Indus Management **or**				
*MGT 4356 Introduction to Materials Management	3	0	0	3
SPH 1300 Oral Communications **or**				
SPH 1301 Persuasive Speaking	3	0	0	3
				17
FIFTH QUARTER				
MGT 4330 Supervision	3	0	0	3
ECO 2304 Economics I	3	0	0	3
FIN 4334 Business Finance I	3	0	0	3
Humanities Electives	3	0	0	3
Elective/s	3	0	0	3
				15
SIXTH QUARTER				
MKT 1304 Principles of Marketing	3	0	0	3
ECO 2305 Economics II	3	0	0	3
†Technical Electives	6	0	0	6
Elective/s	3	0	0	3
				15
SEVENTH QUARTER				
*MGT 4335 Production Planning/Control	3	0	0	3
*MGT 4338 Labor Management Relations	3	0	0	3
DFT 4300 Blueprint Reading	4	2	0	5
†Technical Electives	6	0	0	6
				15

Total Credit Hours 112

*Prerequisitee or corequisite; check course description.

†TECHNICAL ELECTIVES

It is recommended that students wishing to concentrate in **Materials Management** select 12 credit hours from the following:

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
MGT 4322 Introduction to Purchasing	3	0	0	3
*MGT 4323 Advanced Purchasing Mgmt.	3	0	0	3
*MGT 4334 Management Seminar	3	0	0	3
TRN 3300 Introduction to Transportation	3	0	0	3
TRN 4356 Physical Distribution Mgmt.	3	0	0	3
TRN 4358 Warehousing	3	0	0	3

It is recommended that students wishing to concentrate in **Engineering Management** select 12 credit hours from the following courses:

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*ISC 4305 Plant Layout/Material Handling	2	3	0	3
*ISC 4307 Introduction to Robotics	3	3	0	4
*ISC 4314 Inspection and Quality Control	2	3	0	3
ISC 4400 Time and Motion Study	2	6	0	4
*ISC 4416 Process Planning	2	6	0	4

Industrial Safety, Security, and Health Management Technology (T153)

The Industrial Safety, Security, and Health Management Technology curriculum prepares students for employment in three fields: industrial safety, industrial security, and industrial health management. The curriculum focuses on security, on the prevention of crime in industry, on the protection of workers from unsafe practices, and on public health. It emphasizes federal regulations and acts that have been adopted to provide for a safer environment. The curriculum provides instruction about criminal behavior and criminal law, methods of detecting and preventing illegal acts, principles of safety, fire prevention and protection, electrical safety and hygiene. Upon completion of this curriculum, graduates may find employment in industry, state, and federal government agencies, and fire prevention, safety, and security programs.

The Associate in Applied Science Degree—Industrial Safety, Security, and Health Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6582, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

MAJOR COURSES

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PSC 3504	Crime Scene Technology	4	2	5
PSC 3510	Criminal Law	5	0	5
PSC 4520	Public Relations	5	0	5
SSH 3301	Principles of Industrial Management	3	0	3
SSH 3500	Introduction to Loss Prevention	5	0	5
SSH 3501	Intro. to Principles of Safety	4	2	5
SSH 4510	Principles of Interviewing and Interrogation	5	0	5
SSH 4514	Electronics for Security	5	0	5
Technical Electives				18
				56

TECHNICAL ELECTIVES

In consultation with advisor, student may choose 18 credit hours from the following list of technical electives.

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PSC 4312	Organized Crime	3	0	3
PSC 4504	Criminal of Procedures and Rules Evidence	5	0	5
PSC 4506	Advanced Crime Scene Technology	4	2	5
SSH 3302	Hotel and Motel Security	3	0	3
SSH 3503	Retail Security	5	0	5
SSH 3504	Occupational Safety and Health I	4	2	5
*SSH 3505	Occupational Safety and Health II	4	2	5
*SSH 3506	Occupation Safety and Health III	4	2	5
†*SSH 4190	Cooperative Education (0-0-11)			1
†*SSH 4290	Cooperative Education (0-0-22)			2
†(Can be substituted for PSC 4312)				
SSH 4501	Industrial Hygiene and Toxicology	4	2	5
SSH 4504	Security Problems and Practices I	4	2	5
SSH 4513	Computer Security	5	0	5
SSH 4515	Executive Protection and Terrorism	5	0	5
SSH 4520	Private Investigations	5	0	5

RELATED COURSES

In consultation with the program adviser, students may choose 25 credit hours from the following list of related courses.

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 1400	Introduction To Business	3	2	4
BUS 2304	Business Law	3	0	3
EDP 3310	Microcomputer Operations	2	2	3
FIP 3303	Fire Protection I	3	0	3
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	2
LEX 4321	Tort Law	3	0	3
PSC 4501	Constitutional Law	5	0	5
PSC 4504	Criminal Procedures and Rules of Evidence	5	0	5
PSC 4505	Criminal Investigations	5	0	5
SSH 4304	Special Problems in Industrial Safety	2	2	3

GENERAL EDUCATION

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ENG 1504	English Composition I	5	0	5
ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
Elective - Computational		3	0	3
Elective - Humanities or Fine Arts		3	0	3
Elective - Social or Behavioral Sciences		3	0	3
Elective - Natural Science or Mathematics		3	0	3

Computational:

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604	Principles of Accounting	5	2	6
FIN 3303	Personal Investing	3	0	3
FIN 3314	Business Mathematics I	3	0	3
FIN 4350	Personal Money & Financial Management I	3	0	3
MAT 1504	College Algebra I	5	0	5
MAT 3501	Mathematics for Public Safety	5	0	5

(continued)

Humanities or Fine Arts

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
HUM 1300	The Ascent of Man	3	0	3
HUM 1319	Mythology	3	0	3
HUM 1500	Humanities - Classical to Medieval	5	0	5
HUM 2320	Special Topics	3	0	3
SPH 2300	Voice & Diction	3	0	3
SPH 2304	Public Speaking	3	0	3

Social or Behavioral Sciences

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ECO 2304	Economics I	3	0	3
HIS 2500	North Carolina History	5	0	5
PHI 1500	Introduction to Philosophy	5	0	5
POL 1502	American Politics	5	0	5
PSY 1500	Psychology of Adjustment	5	0	5
PSY 2500	Educational Psychology	5	0	5
PSY 2504	General Psychology	5	0	5
PSY 3314	Principles of Humanistic Psychology	3	0	3
SOC 1301	Group Interaction	3	0	3
SOC 2514	Introduction to Sociology	5	0	5
SOC 2515	Social Problems	5	0	5

Natural Science or Mathematics

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BIO 1500	Biological Science	3	4	5
BIO 1501	General Botany	3	4	5
BIO 1502	General Zoology	3	4	5
BIO 2300	Genetics	3	0	3
BIO 2304	Human Nutrition	3	0	3
CHM 1500	Introductory Chemistry	4	2	5
GEL 1604	Physical Geology	3	0	3
MAT 1504	College Algebra I	5	0	5

Total Credit Hours 105

*Prerequisite or corequisite required; check course description.

NOTE: During the admission process, students are encouraged to obtain a course sequence list from the program counselor or the program director.

Insurance (T128)

The Insurance curriculum is designed to prepare individuals for entry into the insurance field. Objectives of this curriculum are to provide students with knowledge and skills in the principles of life and health insurance, social insurance, property and liability insurance, and governmental influences on the insurance industry, the economy, and the organization and management of business operations.

Employment opportunities are available in areas such as insurance sales agent, claims adjuster, special agent, claims examiner, and customer service representative.

The Associate in Applied Science Degree in Insurance will be awarded upon completion of this program. Students desiring a Diploma in Insurance shall select 65 hours from the following courses in consultation with their adviser. At least 6 hours must be from general education courses. Students must make application to the graduation office before a diploma will be awarded.

Students desiring a Certificate in Insurance shall select 18 hours from the following courses in consultation with their adviser. Students must make application to the graduation office before a certificate will be awarded.

For more information, or answers to question, call the Program Director - 704/342-6420, or the Accounting and Public Service Department - 704/342-6026, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

MAJOR COURSES

			HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
INS	3340	Principles of Risk & Insurance	1	4	0	3
INS	3341	Personal Property & Casualty Insurance	2	2	0	3
INS	4201	Part I - Life & Health Insurance	2	0	0	2
*INS	4202	Part 2 - Life & Health Company Operations	2	0	0	2
INS	4294	General Insurance Part I Introduction	2	0	0	2
*INS	4395	General Insurance Part II Life & Accident & Health	3	0	0	3
*INS	4396	General Insurance Part III Fire & Casualty	3	0	0	3
*INS	4297	General Insurance Part IV Adjusting	2	0	0	2
INS	4315	Personal Risk Mgmt. & Insurance 1-HS 315	3	0	0	3
INS	4316	Personal Risk Mgmt. & Insurance 11-HS 316	3	0	0	3
INS	4317	Multiline Insurance Law & Operation HS317	3	0	0	3
INS	4320	Introduction to Financial Planning HS 320	3	0	0	3
INS	4323	Individual Insurance HS 323	3	0	0	3
*INS	4354	Professional Ethics	2	2	0	3
SEC	3326	Insurance Terms & Vocabulary	3	0	0	3
SEC	3426	Insurance Office Skills	3	2	0	4
*SEC	4326	Insurance Office Problems	2	2	0	3
†Technical Electives			14	0	0	14
			56	12	0	62

† Technical Electives

In consultation with their adviser, students may choose 14 credit hours from the following list:

			HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
INS	4200	NASD Series 22 Review	2	0	0	2
*INS	4203	Part 3 - Legal Aspects of Life and Health	2	0	0	2
*INS	4208	Part 8 - Life Insurance Investments	2	0	0	2
INS	4210	Part 10G1 - Group Insurance	2	0	0	2
*INS	4211	Part 10CL - Life & Health Insurance Claims	2	0	0	2
INS	4280	NASD Series 6 & 63 Review	2	0	0	2
*INS	4284	Cooperative Education I	0	0	22	2
*INS	4285	Cooperative Education II	0	0	22	2
*INS	4286	Cooperative Education II	0	0	22	2
INS	4321	Income Taxation for Financial Planning HS 321	3	0	0	3
INS	4322	Financial System in the Economy HS 322	3	0	0	3
INS	4324	Life Insurance Law - HS 324	3	0	0	3
INS	4325	Group Benefits - HS 325	3	0	0	3
INS	4326	Pensions and Other Retirement Plans - HS 326	3	0	0	3
INS	4327	Employee Benefits - HS 327	3	0	0	3
INS	4328	Investments - HS 328	3	0	0	3
INS	4329	Wealth Accumualtion Plannings HS 29	3	0	0	3
INS	4330	Fundamentals of Estate Planning HS 330	3	0	0	3
INS	4331	Planning for Business Owners and Professionals HS 331	3	0	0	3
INS	4332	Financial Planning Applications HS 332	3	0	0	3
INS	4334	Fundamentals of Estate Planning II HS 334	3	0	0	3
INS	4336	Analysis of Tax-Advantaged Investments HS 336	3	0	0	3

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Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
INS 4337	Business Taxation and Planning HS 337	3	0	0	3
INS 4400	Disability Income Training Course (LUTC)	4	0	0	4
INS 4401	NASD Series 7 Review	4	0	0	4
INS 4404	Financial Planning Skills (LUTC)	4	0	0	4
INS 4700	Advanced Sales Training Course (LUTC)	7	0	0	7
INS 4701	Personal Insurance Course (LUTC)	7	0	0	7
INS 4702	Business Insurance Training Course (LUTC)	7	0	0	7

Related COURSES

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ACC 3500	Small Business Accounting	5	0	0	5
BUS 2304	Business Law I	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
ECO 3300	Introduction to Economics	3	0	0	3
EDP 3324	Advanced Microcomputer Operations	2	2	0	3
SEC 3404	Keyboarding	3	2	0	4
SEC 4305	Business Communications	3	0	0	3
‡Related Electives		9	0	0	9
		30	6	0	33

‡Related ELECTIVES

In consultation with their adviser, students, shall select 9 hours from the following list of related course electives:

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ACC 1604	Principles of Accounting I	5	2	0	6
*ACC 1605	Principles of Accounting II	5	2	0	6
*ACC 3304	Managerial Accounting	3	0	0	3
*ACC 4414	Microcomputer Accounting I	2	4	0	4
ACC 4434	Taxes-Individual	3	2	0	4
ARC 3212	Homes Construction Cost Estimating	1	2	0	2
AUB 5203	Estimating Auto Body Damage	2	0	0	2
*BUS 2305	Business Law II	3	0	0	3
EDP 1500	Computer Literacy	5	0	0	5
ENG 5500	Communication Skills	5	0	0	5
FIN 4303	Personal Estate Planning	3	0	0	3
FIN 4317	Financial Statement Analysis	3	0	0	3
FIP 3406	Arson Investigation I	3	2	0	4
FIP 3408	Arson Investigation II	3	2	0	4
LEX 3300	Case Analysis and Legal Reasoning	3	0	0	3
LEX 3320	Evidence	3	0	0	3
LEX 4321	Tort Law	3	0	0	3
*LEX 4332	Trial Preparation & Procedure	3	0	0	3
LEX 4341	Worker's Compensation Law	3	0	0	3
LEX 4361	Interpreting Medical Reports	3	0	0	3
MKT 3320	Fundamentals of Selling	3	0	0	3
*MKT 4305	Advanced Selling Skills	3	0	0	3
MKT 4325	Sales Management	3	0	0	3
MGT 2314	Principles of Management	3	0	0	3
MGT 3303	Small Business Management	3	0	0	3
SEC 3311	Receptionist Skills	3	0	0	3
*SEC 3405	Document Formatting I	3	2	0	4
*SEC 3406	Document Formatting II	3	2	0	4
*SEC 3414	Shorthand I	3	2	0	4
*SEC 4324	Information Processing Concepts	3	0	0	3
SSH 4510	Priniciples of Interviewing & Interrogation	5	0	0	5
TRN 4351	Freight Claims	3	0	0	3

General Education

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*ENG 1504	English Composition I	5	0	0	5
*ENG 3405	Technical English II	4	0	0	4
FIN 3314	Business Mathematics I	3	0	0	3
Humanities or Fine Arts Elective		6	0	0	6
Social or Behavioral Sciences Elective		3	0	0	3
Natural Science or Mathematics Elective		3	0	0	3
		24	0	0	24

Humanities or Fine Arts Electives must be selected from the following prefixes in consultation with adviser: ART, DRA, HUM, MUS, PHI, SPH.

Social or Behavioral Sciences Electives must be selected from the following prefixes in consultation with adviser: ANT, ECO, GEO, HIS, POL, PSY, SOC.

Natural Science or Mathematics Electives must be selected from the following prefixes in consultation with adviser: BIO, CHM, GEL, MAT, PHY.

*Prerequisite or corequisite required; check course description.

Interior Design (T077)

Increasingly, our interior living and work spaces are being developed for a more sophisticated society. The Commercial Art Interior Design curriculum at CPCC trains students to design the interior spaces of today and tomorrow.

The Interior Design curriculum prepares students for a variety of job opportunities in the fields of both residential and non-residential design. The course of study includes principles and elements of design, drafting, visual communication techniques, the history of styles, currently manufactured products, color theory, furniture design and construction, floor coverings, fabrics, window treatments, wall coverings, paint, accessories, and lighting. Students have the opportunity to cover the elements of interior design and to demonstrate their abilities in interior coordination.

Graduates of this program may qualify for various positions with the following types of employers: interior design studios, furniture manufacturers, architects, furniture design studios, photography studios, and any type of business dealing with interior furnishings.

The Associate in Applied Science Degree—Commercial Art Interior Design will be awarded by the College upon completion of this program.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
ART 1300 Introduction to Art I	3	0	3
ART 1404 General Drawing I	2	4	4
ART 1424 Design I	2	4	4
ART 4201 Commercial Art Orientation	2	0	2
*ENG 1504 English Composition I	5	0	5
FIN 3314 Business Mathematics I	3	0	3
			21
SECOND QUARTER			
ARC 3334 Architectural Drafting I (Basic)	1	6	3
ART 1301 Introduction to Art II	3	0	3
ART 1384 Basic Camera Techniques	3	0	3
*ART 1405 General Drawing II	2	4	4
*ART 1425 Design II	2	4	4
			17
THIRD QUARTER			
*ARC 3303 Interior Design Drafting I	1	6	3
*ART 1426 Design III	2	4	4
*EDN 4300 Survey of Interior Design	3	0	3
*EDN 4310 Design Sketching	0	6	3
MKT 3320 Fundamentals of Selling	3	0	3
PSY 2504 General Psychology	5	0	5
			21

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FOURTH QUARTER			
*ARC 3304 Interior Design Drafting II	1	6	3
ART 1310 History of Art I	3	0	3
EDN 4316 Period Furniture and Furnishings I	3	0	3
EDN 4320 Introduction to Textiles	3	0	3
*EDN 4404 Interior Presentations	2	4	4
*EDN 4414 Applied Problems Studio I	2	4	4
			20
FIFTH QUARTER			
*ARC 3314 Architectural Computer Drafting (CAD) Auto CAD I	1	6	3
‡ART 1311 History of Art II	3	0	3
*EDN 4307 Survey of Materials	1	4	3
*EDN 4317 Period Furniture and Furnishings II	3	0	3
*EDN 4415 Applied Problems Studio II	2	4	4
			16
SIXTH QUARTER			
*EDN 4202 Thesis	0	4	2
*EDN 4400 Professional Practices and Procedures	2	4	4
*EDN 4406 Contract Interiors	2	4	4
*EDN 4416 Applied Problems Studio III	2	4	4
HOR 3312 Indoor Plants	2	2	3
			17

Total Credit Hours 112

*Prerequisite or corequisite required; check course description.

‡ART 1312 History of Art III may be substituted without department head approval.

International Business (T207)

The International Business curriculum is designed to prepare students for entry-level or intermediate positions in international business. It consists of a core of business, social science, and foreign language courses coupled with specialized courses in international business such as international finance, international marketing, international business practices, etc.

Students will be prepared for employment in international business based on demonstrated language skills; knowledge of geographic, political, and cultural differences; ability to process import/export documentation; knowledge of international economics and finance; and the different forms and practices of business used around the world.

Through these skills and through the development of personal competencies and qualities, graduates will be able to function effectively in entry-level and advanced positions in import/export departments, freight forwarders, custom house brokers, and international departments of banks.

The Associate in Applied Science Degree — International Business will be awarded by the College upon completion of this program. A Certificate in International Business is also available upon completion of 35 credit hours of specified required courses.

For more information or answers to questions, call 704/342-6646 or 342-6284, weekdays between 8 a.m. to 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 1500	Introduction to Business	5	0	0	5
ENG 1504	English Composition I	5	0	0	5
INT 3300	Introduction to International Business	3	0	0	3
#Intermediate Foreign Language I		5	2	0	6
					19

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ECO 2304	Economics I	3	0	0	3
ENG 3405	Technical English II **or**				
ENG 1505	English Composition II	4	0	0	4
INT 3306	International Business Practices	3	0	0	3
#Intermediate Foreign Language II		5	2	0	6
					16

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 2304	Business Law I	3	0	0	3
ECO 2305	Economics II	3	0	0	3
Math 1504	College Algebra **or** approved Natural Science course	5	0	0	5
GPY 1500	Introduction to World Geography	5	0	0	5
#Business Foreign Language		3	0	0	3
					19

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ACC 1604	Principles of Accounting I	5	2	0	6
BUS 2305	Business Law II	3	0	0	3
***INT 4225	Co-operative Work Experience I	0		20	2
MGT 2314	Principles of Management	3	0	0	3
TRN 4380	Export Transportation Management	3	0	0	3
					17

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ACC 1605	Principles of Accounting II	5	2	0	6
***INT 4226	Co-operative Work Experience II	0	0	20	2
EDP 3310	Microcomputer Operations	2	2	0	3
INT 3305	International Marketing	3	0	0	3
TRN 4375	Import Transportation Management	3	0	0	3
					17

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
INT 3307	Economics of International Trade	3	0	0	3
INT 4307	International Business Law	3	0	0	3
SOC 2514	Introduction to Sociology	5	0	0	5
*General Education Elective		3	0	0	3
**Technical Elective		6	0	0	6
					20

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BAF 4303	International Banking	3	0	0	3
ACC 4308	International Accounting and Taxation	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
					9

Total Credit Hours 117

TECHNICAL ELECTIVES:

**Select 6 credit hours from the following:

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 3300	Human Relations	3	0	0	3
BUS 3304	Business Statistics	3	0	0	3
FIN 4334	Business Finance	3	0	0	3
MGT 3303	Small Business Management	3	0	0	3
MGT 4332	Personnel Management I	3	0	0	3
MGT 4330	Supervision	3	0	0	3
MKT 3320	Fundamentals of Selling	3	0	0	3
MKT 4322	Purchasing	3	0	0	3

***Elect INT 4225 (Cooperative Work Experience I) and INT 4226 (Cooperative Work Experience II)

or

INT 4425 Travel Study Abroad (Travel/Study plan developed and approved by department head - maximum credit hours: 4.)

#Student must consult with program director to choose a foreign language to satisfy this requirement.

Interpreter Training Associate (T185)

Human Services Associate courses have been approved by the
National Board for Certified Counselors (NBCC) for professional counselor (NCC) renewal credit.
Contact the Social Services Program Director, 342-6659, for more information.

The Interpreter Training curriculum prepares students to work as interpreters for the deaf and provides instruction for presently employed interpreters who wish to further develop their skills. Instruction includes the study of hearing and deafness, the use of American Sign Language and fingerspelling, and the process of interpreting and translating in various situations. Knowledge of theory is supplemented with the opportunity to practice interpreting to develop receptive ability, clarity, and speed of translation.

Graduates of the program may find employment translating spoken language into sign language for deaf individuals or interpreting sign language into oral or written language for hearing individuals. Job opportunities exist with educational, medical, legal, and community agencies as teacher assistants, interpreter/tutors, or secretary/interpreters. Individuals may also choose to be self-employed as freelance interpreters.

The Associate in Applied Science Degree—Interpreter Training will be awarded by the College upon completion of 114 credit hours as follows: 69 credit hours of Major Course Requirements, 23 credit hours of Related Course Requirements, 19 credit hours of General Education Requirements, and 3 credit hours of Electives.

The program's 23 hours of related course work are not designated. At least one course must be taken from the Humanities or Fine Arts area and one from the Natural Sciences or Mathematics area. These courses are selected with the program director in consideraton of the student's goals. This allows development of a second skill in the area in which the student would like to work, thus making the student more marketable.

To pursue an Associate in Applied Science Degree in Interpreter Training, students should first make application to the College. Placement tests, arranged at the time of application, are required for entry. Students will then see the program director. Students should complete the courses listed below and may obtain a suggested course sequence list from the program counselor or program director.

For more information or answers to questions, call the Program Director - 704/342-6829, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
FIRST QUARTER				
HSA 3544 Sign Language I **or**	5	0	0	5
HSA 3324 Conversational Sign Language I **and**	3	0	0	3
HSA 3325 Conversational Sign Language II	3	0	0	3
HSA 4304 Orientation to Deafness	3	0	0	3
HSA 3501 Introduction to HSA	5	0	0	5
ENG 1504 English Composition I	5	0	0	5
				18
SECOND QUARTER				
*HSA 3545 Sign Language II	5	0	0	5
HSA 4300 Hearing and Deafness	3	0	0	3
*HSA 3502 Interpersonal Relationships	5	0	0	5
ENG 3405 Technical English II	4	0	0	4
				17
THIRD QUARTER				
*HSA 3518 Interpreting Idioms	5	0	0	5
HSA 3305 Introduction to Interpreting	3	0	0	3
*HSA 3340 Client Group Dynamics	3	0	0	3
*HSA 3341 Interpersonal Relationships II	3	0	0	3
				14
FOURTH QUARTER				
*HSA 3304 Sign Systems and Specialized Vocabulary	3	0	0	3
*HSA 3514 Interpreting I	2	6	0	5
PSY 2504 General Psychology	5	0	0	5
† Related Courses	5	0	0	5
				18

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
FIFTH QUARTER				
*HSA 3515 Interpreting II	2	6	0	5
*HSA 3106 Sign To Voice Lab	0	2	0	1
SOC 2514 Introduction to Sociology	5	0	0	5
† Related Courses	5	0	0	5
				16
SIXTH QUARTER				
*HSA 3516 Interpreting III	2	6	0	5
*HSA 3517 Sign To Voice Interpreting	2	6	0	5
† Related Courses	8	0	0	8
				18
SEVENTH QUARTER				
*HSA 4508 Human Services Seminar	1	0	12	5
†Related Courses	5	0	0	5
Elective	3	0	0	3
				13

RELATED COURSES

† Related course work is selected, with the approval of the program director, depending on the area of interest the student wishes to combine with their interpreting skills. The program director will work individually with students to help them choose appropriate courses 23

Total Credit Hours 114

*Prerequisite or corequisite required; check course description.

Law Enforcement Technology (T064)

The Law Enforcement Technology curriculum prepares students for a career in the law enforcement services occupations field and other allied occupations. Law enforcement occupations require a thorough understanding of criminal behavior, criminal investigation, interpersonal communications, law, patrol operations, psychology, sociology, traffic management, and other aspects of law enforcement administration and operations.

Job opportunities are available with federal, state, county, and municipal governments. In addition, knowledge, skills, and abilities acquired in this course of study qualify graduates for job opportunities with private enterprise in such areas as industrial, retail, and private security.

The Associate in Applied Science Degree—Law Enforcement will be awarded upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6921, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MAJOR COURSES			
PSC 3303 Motor Vehicle Laws of North Carolina	2	2	3
PSC 3500 Introduction to Criminology	5	0	5
‡PSC 3501 Introduction to Law Enforcement	5	0	5
PSC 3504 Crime Scene Technology	4	2	5
‡PSC 3510 Criminal Law	5	0	5
PSC 3514 Police Organization and Administration	5	0	5
‡PSC 4310 Self Defense and Weaponry	1	4	3
PSC 4312 Organized Crime	3	0	3
PSC 4501 Constitutional Law	5	0	5
PSC 4503 Law Enforcement Psychology	5	0	5
*PSC 4504 Criminal Procedure and Rules of Evidence	5	0	5
‡PSC 4505 Criminal Investigation	5	0	5
*PSC 4506 Advanced Crime Scene Technology	4	2	5
‡PSC 4510 Police Operations	4	2	5
PSC 4520 Public Relations	5	0	5
			69
RELATED COURSES			
SSH 4520 Private Investigations	5	0	5
SSH 3500 Introduction to Loss Prevention	5	0	5
SSH 4510 Principles of Interviewing and Interrogation	5	0	5
SSH 4515 Executive Protection and Terrorism	5	0	5
CSC 3504 Juvenile Justice System	5	0	5
EDP 3310 Microcomputer Operations	2	2	3
			28
GENERAL EDUCATION COURSES			
*ENG 1504 English Composition I	5	0	5
*ENG 3405 Technical English II	4	0	4
SPH 1300 Oral Communications	3	0	3
†Elective General Education (Computational)	3	0	3
†Elective General Education (Humanities or Fine Arts)	3	0	3
†Elective General Education (Social or Behavioral Sciences)	3	0	3
†Elective General Education (Natural Science or Mathematics)	3	0	3
			24

Total Credit Hours 121

*Prerequisite or corequisite required; check course description.

NOTE: During the admissions process, students are encouraged to obtain a course sequence list from the program director.

Students should consult with a faculty advisor or program director regarding the transfer of this program to senior institutions.

‡Substituted for successful Basic Law Enforcement Training.

†General Education electives must be selected from the areas of Computational, Humanities or Fine Arts, Social or Behavioral Sciences, or Natural Science or Mathematics.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
†GENERAL EDUCATION ELECTIVES—COMPUTATIONAL			
ACC 1604 Principles of Accounting	5	2	6
FIN 3303 Personal Investing	3	0	3
FIN 3314 Business Mathematics I	3	0	3
FIN 4350 Personal Money & Financial Management I	3	0	3
*MAT 1504 College Algebra I	5	0	5
MAT 3501 Mathematics for Public Safety	5	0	5
HUMANITIES OR FINE ARTS			
HUM 1300 The Ascent of Man	3	0	3
HUM 1319 Mythology	3	0	3
HUM 1500 Humanities—Classical to Medieval	5	0	5
*HUM 2320 Special Topics	3	0	3
SPH 2300 Voice & Diction	3	0	3
SPH 2304 Public Speaking	3	0	3
SOCIAL OR BEHAVIORAL SCIENCES			
HIS 2500 North Carolina History	5	0	5
ECO 2304 Economics I	3	0	3
PHI 1500 Introduction to Philosophy	5	0	5
PSY 1500 Psychology of Adjustment	5	0	5
PSY 2500 Educational Psychology	5	0	5
PSY 2504 General Psychology	5	0	5
PSY 3314 Principles of Humanistic Psychology	3	0	3

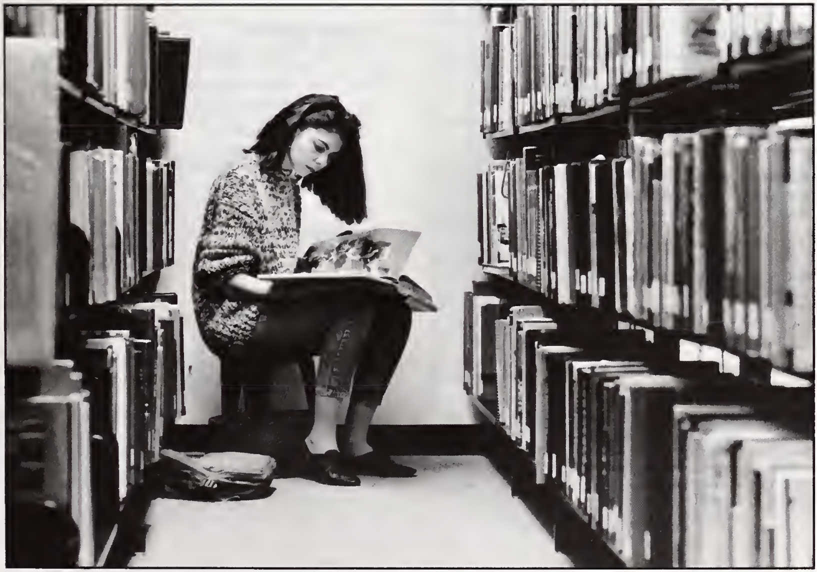
(continued)

(Social or Behavioral Sciences continued)

SOC	1301	Group Interaction	3	0	3
SOC	2514	Introduction to Sociology	5	0	5
SOC	2515	Social Problems	5	0	5

NATURAL SCIENCE OR MATHEMATICS

BIO	1500	Biological Science	3	4	5
BIO	1501	General Botany	3	4	5
BIO	1502	General Zoology	3	4	5
BIO	2300	Genetics	3	0	3
BIO	2304	Human Nutrition	3	0	3
*CHM	1500	Introductory Chemistry	4	2	5
GEL	1604	Physical Geology	5	2	6
*MAT	1504	College Algebra I	5	0	5



Machinist (V032)

The Machinist curriculum gives students the opportunity to acquire basic skills and related technical information necessary to gain employment as machinists. The machinist is a skilled metalworker who shapes metal by using machine tools and hand tools. Machinists must be able to set up and operate the machine tools found in a modern shop. The machinist is able to select the proper tools and materials required for each job and to plan the cutting and finishing operations in their proper order so that the work can be finished according to blueprint or written specifications. The machinist makes computations relating to dimensions of work, tooling, and feeds and speeds of machining. Precision measuring instruments are used to measure the accuracy of work. The machinist also must know the characteristics of metals so that annealing and hardening of tools and metal parts can be accomplished in the process of turning a block of metal into an intricate, precise part.

In addition to the skills listed above, machinist students at CPCC learn to operate, set up, and program computer numerical control (CNC) machine tools.

CPCC's machine shop lab has conventional equipment including engine lathes, milling, drilling, and grinding machines. It is also equipped with CNC turning and machining center machine tools, the Numeridex and Okuma TM-APT-G programming systems, and a coordinate measuring machine.

Cooperative work experience is also available for curriculum credit. Most employers have indicated that students completing Co-op work experience are better trained and progress faster than those who do not. Co-op work experience also provides students the opportunity to earn while they are learning. CPCC works with each student to help find an employer sponsor. The student will spend the third and fifth quarters at the job site working for the sponsor.

A Diploma is awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6608, or the Technology Department - 704/342-6557, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
MAC 5200	Precision Instrument Reading	2	0	2
MAC 5300	Fundamentals of Computer Numerical Control Programming	3	0	3
MAC 5203	Blueprint Reading for Machinists I	1	2	2
*MAC 5311	Basic Lathe Operations	1	6	3
MAC 5401	Basic Calculations for Machinists I	4	0	4
*MAC 5422	Basic Milling Operations	2	6	4
				18
SECOND QUARTER				
*MAC 5204	Blueprint Reading for Machinists II	1	2	2
*MAC 5304	Computer Numerical Control Programming—Turning Center	2	2	3
*MAC 5313	Layout, Hand Tool and Drill Press Procedures	1	6	3
*MAC 5320	Calculations for Machinists II	3	0	3
*MAC 5424	Grinding Machine Operations	2	6	4
MEC 5214	Practical Metallurgy I	1	3	2
*MAC 5205	Coordinate Measuring Machine Applications	1	2	2
				19
THIRD QUARTER				
ENG 5500	Communication Skills	5	0	5
PHY 5304	Shop Science I	2	2	3
*MAC 5305	Computer Numerical Control Programming—Machining Center	2	2	3
MAC 5303	Computer Numerical Control Machining Center Operations	2	3	3
*MEC 5215	Practical Metallurgy II	1	3	2
*MAC 5315	General Machining and Maintenance	1	6	3
				19

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FOURTH QUARTER				
MAC 5306	Computer Numerical Control Turning Center Operations	2	3	3
*MAC 5310	Computer Numerical Control Programming Applications	2	2	3
*MAC 5307	Machine Tool Applications	0	9	3
HSA 5200	Human Relations	2	0	2
*PHY 5305	Shop Science II	2	2	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
Elective				2
				18

Total Credit Hours 74

*Prerequisite or corequisite required; check course description.

MAC 5296	Machinist Co-op I (May substitute for WLD 5210 Basic Oxyacetylene Welding)	0	20	2
MAC 5297	Machinist Co-op II (Students may substitute for WLD 5250 Basic Gas Metal Arc Welding)	0	20	2

Manufacturing Engineering Technology (T050)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

The primary objective of the Manufacturing Engineering Technology curriculum is the training of personnel to assist the engineer or small industry in planning, tooling, operating, servicing, and supervising manufacturing operations. This curriculum provides a basic background of mechanical and related theory with specific skills in the use of manufacturing and testing equipment. Students are given experience in operating and servicing machines, accompanied by general education and management courses.

A graduate of this program may qualify for an entry position in one of several manufacturing functions: methods analysis, production scheduling, quality control, materials testing, plant layout, time study, machine tooling, maintenance, and equipment and instrument work.

The Mechanical Engineering Technology curriculum at Central Piedmont Community College is a comprehensive program featuring extensive hands-on CAD/CAM instruction in the practical application of both fundamental and highly specialized manufacturing engineering technology principles. Students advance from basic courses to specialized manufacturing, industrial, and mechanical engineering technology courses that provide concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology manufacturing industry, including Robotics/Automation and CAD/CAM.

Upon successful completion of this curriculum, an Associate in Applied Science Degree in Manufacturing Engineering Technology will be awarded by the College.

For more information, call Program Counselor - 704/342-6881, or the Manufacturing Engineering Technology Program Director - 704/342-6553, or the Department - 704/342-6557.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ENG 1504	English Composition I	5	0	5
*MAT 3507	Engineering Technology Math I	5	0	5
DFT 3404	Mechanical Drafting I	2	6	4
MAC 3201	Machine Operations for Engineering Technicians	1	3	2
MEC 3101	Mechanical/Manufacturing Seminar	1	0	1
				17

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*MAT 3508	Engineering Technology Math II	5	0	5
*PHY 1404	Physics I: Basic Mechanics	3	2	4
MEC 3404	Manufacturing Processes I	3	3	4
MAC 3202	CNC Programming & Machining for Engineering Technicians	1	2	2
*DFT 3314	Mechanical Computer Aided Drafting (CAD) AutoCAD **or**			
*DFT 33xx	Mechanical Computer Aided Drafting (CAD) IBM CAD	2	3	3
				18

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
*ENG 3405	Technical English II	4	0	4
*MAT 3509	Engineering Technology Math III	5	0	5
*MEC 3405	Manufacturing Processes II	3	3	4
				17

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*PHY 1406	Physics III: Electricity and Magnetism	3	2	4
*MEC 4403	Engineering Materials	3	3	4
MEC 4434	Hydraulics & Pneumatics	2	6	4
EDP 3405	Microcomputer Programming BASIC	3	2	4
†Technical Elective		3	0	3
				19

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ISC 4314	Inspection and Quality Control	2	3	3
*ELN 3407	Electrical/Electronic Devices and Controls	3	3	4
ISC 4316	Process Planning	2	3	3
*MEC 4508	Applied Mechanics	3	6	5
ISC 3301	Engineering Economic Analysis	2	3	3
				18

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SPH 1300	Oral Communications	3	0	3
*MEC 3524	Mechanics of Materials	3	6	5
*ISC 4307	Introduction to Robotics	2	3	3
*ISC 3314	Computer-Aided Manufacturing (CAM)	2	3	3
Art/Humanities Elective		3	0	3
				17

SEVENTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*MEC 4404	Tool and Die Design	2	6	4
*ISC 4308	Robotics/Automation	2	3	3
ISC 4305	Plant Layout & Materials Handling	2	3	3
†Technical Elective		3	0	3
Behavioral/Social Science Elective		3	0	3
				16

Total Credit Hours 122

*Prerequisite or corequisite required; check course description.

†RECOMMEND TECHNICAL ELECTIVES:

COE 3100	Introduction to Co-Op Work Experience
DFT 33xx	Mechanical Computer Aided Drafting (CAD) IBM CAD

(continued)

DFT	3315	Mechanical Computer Aided Drafting (CAD) CV 2D
DFT	3316	Mechanical Computer Aided Drafting (CAD) CV 3D
DFT	3317	Mechanical Computer Aided Drafting (CAD) III-Detailing
DFT	3318	Mechanical Computer Aided Drafting (CAD) IV-Assembly
DFT	3319	CAD Project
DFT	3320	Mechanical Computer Aided Drafting (CAD) Auto CAD 3D
DFT	3327	Mechanical Computer Aided Drafting (CAD) CADAM
DFT	3406	Descriptive Geometry
EDP	3310	Microcomputer Operations
ELN	4415	Industrial Programmable Controllers
ISC	33xx	Introduction to CIM (Computer Integrated Manufacturing)
ISC	4404	Time and Motion Study
MAT	3516	Statistical Process Control
MAT	4507	Engineering Technology Mathematics IV
MEC	4284	Cooperative Work Experience I
MEC	4285	Cooperative Work Experience II
MEC	4405	Mechanisms
MEC	4402	Machine Design
MEC	4425	Thermodynamics
MGT	4333	Production Planning and Control

Marketing and Retailing (T020)

The Marketing and Retailing curriculum prepares students for entry into middle-management positions in various marketing and retailing businesses and industries. The program includes study and application in areas such as marketing and merchandising techniques, management, selling, advertising, retailing, and credit and collection procedures.

Through knowledge and skills, students will be able to perform marketing and distribution activities and, through the development of personal competencies and qualities, will be provided the opportunity to enter an array of marketing and distribution jobs. Case studies, simulation, role playing, cooperative experience, and research are integral parts of this program.

According to the Bureau of Labor Statistics, occupations with the greatest number of new jobs by 1995 include wholesale and retail salespeople.

The Associate in Applied Science Degree—Marketing and Retailing will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6529, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 1500 Introduction to Business	3	0	0	3
BUS 3300 Human Relations	3	0	0	3
**FIN 3314 Business Math I	3	0	0	3
ENG 1504 English Composition I	5	0	0	5
MKT 1304 Marketing I	3	0	0	3
				19

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 2304 Business Law I	3	0	0	3
ECO 2304 Economics I	3	0	0	3
*ENG 3405 Technical English II	4	0	0	4
FIN 3315 Business Math II	3	0	0	3
*MKT 1305 Marketing II	3	0	0	3
				16

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 2305 Business Law II	3	0	0	3
*BUS 3305 Human Relations II	3	0	0	3
ECO 2305 Economics II	3	0	0	3
EDP 3310 Microcomputer Operations	2	2	0	3
£General Elective - Math or Science	5	0	0	5
				17

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*ECO 2306 Economics III	3	0	0	3
EDP 3324 Adv. Microcomputer Operations	2	2	0	3
MKT 3320 Fundamentals of Selling	3	0	0	3
MKT 4320 Retailing	3	0	0	3
SPH 1300 Oral Communications	3	0	0	3
				15

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
ACC 3600 General Accounting **or** ACC 1604 Accounting I	5	2	0	6
MGT 4330 Supervision	3	0	0	3
SPH 1301 Persuasive Speaking	3	0	0	3
†Technical Electives	6	0	0	6
				18

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 3304 Business Statistics	3	0	0	3
INS 3340 Principles of Risk and Insurance	3	0	0	3
MKT 3204 Cooperative Education	0	0	20	2
MKT 4321 Advertising	3	0	0	3
†Technical Elective	3	0	0	3
£General Elective	2	0	0	2
				16

SEVENTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
MKT 4384 Customer Relations	3	0	0	3
IRN 4356 Physical Distribution Mgt	3	0	0	3
†Technical Electives	9	0	0	9
				15

Total Credit Hours 116

*Prerequisite or Corequisite required.
**Credit by examination available for this course.

£GENERAL EDUCATION — MATHEMATICS OR SCIENCE — ELECTIVES must have MAT, BIO, CHM, GEL, GEO or PHY prefixes.

†TECHNICAL ELECTIVES: Students will select 18 hours from the following courses:

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
INT 3300 Introduction to International Business	3	0	0	3
*INT 3305 International Business	3	0	0	3
**INT 3306 International Business Practice	3	0	0	3
MKT 3205 Cooperative Education II	0	0	20	2
MKT 3206 Cooperative Education III	0	0	20	2
MKT 3300 Introduction to Textiles	3	0	0	3
*MKT 4305 Advanced Selling Skills	3	0	0	3
MKT 4325 Sales Management	3	0	0	3
MKT 4340 Merchandising	3	0	0	3
MKT 4354 Visual Display	3	0	0	3
MKT 4385 Services Marketing	3	0	0	3
MKT 4386 Marketing Research	3	0	0	3
MKT 4387 Public Relations	3	0	0	3
MGT 4356 Introduction to Purchasing	3	0	0	3

Mechanical Drafting (V017)

(WITH EMPHASIS ON COMPUTER AIDED DRAFTING)

The Drafting—Mechanical curriculum prepares students to enter the field of mechanical drafting. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel—administrators, engineers, skilled workers—and must be able to communicate effectively with them.

The mechanical drafting graduate performs the duties of a general drafter, specializing in making rough drafting sketches of proposed mechanical devices, and then draws necessary details. The drafter also prepares accurate scale drawings of parts for machines from specifications.

The Mechanical Drafting program at Central Piedmont Community College is a comprehensive Computer-Aided-Drafting (CAD) curriculum that emphasizes CAD throughout the program from basic part drawings to complete detailing and assembly working drawings. Students gain extensive hands-on experience with both small and large CAD systems.

A Diploma in Mechanical Drafting will be awarded by the College upon completion of this program. Students may apply appropriate courses toward the Mechanical or the Manufacturing Engineering Technology programs.

For more information, call the Program Counselor - 704/342-6881, the Mechanical Engineering Technology Program Director - 704/342-6553, or the Technology Department Head - 704/342-6557.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ENG 1504	English Composition I	5	0	5
MAT 3504	Technical Math I	5	0	5
DFT 3404	Mechanical Drafting I	2	6	4
MAC 3201	Machine Operations for Engineering Technicians	1	3	2
MEC 3101	Mechanical/Manufacturing Seminar	1	0	1
				17

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MAT 3306	Technical Trigonometry	3	0	3
PHY 5304	Shop Science I	2	2	3
*DFT 3405	Mechanical Drafting II	2	6	4
*DFT 3314	Mechanical Computer-Aided Drafting (CAD) AutoCAD **or**			
DFT 33xx	Mechanical Computer-Aided Drafting (CAD) IBM CAD	2	3	3
MEC 3404	Manufacturing Processes I	3	3	4
				17

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PHY 5305	Shop Science II	2	2	3
EDP 3310	Microcomputer Operations	2	2	3
*DFT 3315	Mechanical Computer-Aided Drafting (CAD) 2D CV **or**			
*DFT 3327	Mechanical Computer Aided Drafting (CAD) 2D CADAM **or**			
*DFT 33xx	Mechanical Computer Aided Drafting (CAD) 2D, CATIA	1	6	3
*MEC 3405	Manufacturing Processes II	3	3	4
*ENG 3405	Technical English II	4	0	4
				17

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MEC 4403	Engineering Materials	3	3	4
*DFT 3317	Mechanical Computer-Aided Drafting (CAD) Detailing	1	6	3
*DFT 3318	Mechanical Computer-Aided Drafting (CAD) Assembly	1	6	3
*ISC 4307	Introduction to Robotics	2	3	3
Arts/Humanities Elective		3	0	3
				16

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*DFT 3319	CAD Project	1	6	3
*DFT 3316	Mechanical Computer Aided Drafting (CAD) 3D CV **or**			
*DFT 33xx	Mechanical Computer Aided Drafting (CAD) 3D, CATIA **or**			
*DFT 3320	Mechanical Computer Aided Drafting (CAD) 3D, AutoCAD	1	6	3
†Technical Elective		2	0	2
				8

Total Credit Hours 75

*Prerequisite or corequisite required; check course description.

†RECOMMENED TECHNICAL ELECTIVES

COE 3100	Introduction to Co-Op Work Experience
DFT 3400	Electrical/Electronic Computer Aided Drafting
DFT 4300	Mechanical Blueprint Reading
EDP 3405	Microcomputer Programming-BASIC
ELN 4464	Printed Circuit Board Design & Layout (CAD) I
ISC 3314	Computer-Aided Manufacturing (CAM)
ISC 4305	Plant Layout and Materials Handling
MEC 4284	Cooperative Work Experience I
MEC 4285	Cooperative Work Experience II
MEC 4434	Hydraulics and Pneumatics

Mechanical Engineering Technology (T051)

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

The Mechanical Engineering Technology curriculum prepares technicians to assist engineers in the design and development of machinery and other mechanical equipment and parts, and to perform other activities which require technical knowledge of factors such as tolerances, stresses, strains, friction, and vibration. The scope of the subject matter covered prepares the graduate for employment in greatly diversified branches of the mechanical engineering field.

The graduate may wish to work with testing experimental machinery and equipment and analyzing the results. Typical of such devices are internal combustion engines, steam turbines, jet and rocket engines, nuclear reactors, refrigeration and air conditioning equipment, missiles, spacecraft, marine equipment, motor vehicles, railroad equipment, and machines for specialized industries such as textile mills. Another specialty area graduates may wish to pursue is that of the tool designer. Tool designers design tools and devices for the mass production of manufactured articles. They may also work with the instrumentation and design of machine tools or in equipping plants or mills which require special construction to accommodate power-producing or power-transmitting machinery.

The Mechanical Engineering Technology curriculum at Central Piedmont Community College features extensive use of CAD/CAM systems in the practical applications of both fundamental and highly specialized mechanical engineering technology principles. Students advance from basic courses to specialized mechanical engineering technology engineering courses that furnish concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology industry, including CAD/ CAM and Robotics/Automation.

The Associate in Applied Science Degree—Mechanical Engineering Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Counselor - 704/342-6881, the Mechanical Engineering Technology Program Director - 704/342-6553, or the Department Head - 704/342-6557.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
*ENG 1504	English Composition I	5	0	5
*MAT 3507	Engineering Technology Math I	5	0	5
DFT 3404	Mechanical Drafting I	2	6	4
MAC 3201	Machine Operations for Engineering Technicians	1	3	2
MEC 3101	Mechanical/Manufacturing Seminar	1	0	1
				17
SECOND QUARTER				
*MAT 3508	Engineering Technology Math II	5	0	5
*PHY 1404	Physics I: Basic Mechanics	3	2	4
*DFT 3314	Mechanical Computer Aided Drafting (CAD) AutoCAD **or**			
*DFT 33xx	Mechanical Computer Aided Drafting (CAD) IBM CAD	2	3	3
*MEC 3404	Manufacturing Processes I	3	3	4
MAC 3202	CNC Programming & Machining for Engineering Technicians	1	2	2
				18
THIRD QUARTER				
*ENG 3405	Technical English II	4	0	4
*MAT 3509	Engineering Technology Math III	5	0	5
*PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
*MEC 3405	Manufacturing Processes II	3	3	4
				17

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FOURTH QUARTER				
*PHY 1406	Physics III: Electricity and Magnetism	3	2	4
*DFT 3315	Mechanical Computer Aided Drafting (CAD) 2D CV **or** Systems			
*DFT 3327	Mechanical Computer Aided Drafting (CAD) 2D CADAM **or**			
*DFT 33xx	Mechanical Computer Aided Drafting (CAD) 2 D CATIA	1	6	3
MEC 4403	Engineering Materials	3	3	4
*MEC 4434	Hydraulics and Pneumatics	3	3	4
EDP 3405	Microcomputer Programming — BASIC	3	2	4
				19
FIFTH QUARTER				
ISC 3301	Engineering Economic Analysis	2	3	3
*MEC 4508	Applied Mechanics	3	6	5
*DFT 3316	Mechanical Computer Aided Drafting (CAD) 3D CV **or**			
*DFT 33xx	Mechanical Computer Aided Drafting (CAD) 3D CATIA **or**			
*DFT 3320	Mechanical Computer Aided Drafting (CAD) 3D AutoCAD	1	6	3
Art/Humanities Elective		3	0	3
†Technical Elective		3	0	3
				17

(continued)

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SPH 1300 Oral Communications	3	0	3
*MEC 3524 Mechanics of Materials	3	6	5
*MEC 4405 Mechanisms	3	3	4
*ISC 4307 Introduction to Robotics	2	3	3
†Technical Elective	3	0	3
			18

SEVENTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*MEC 4404 Tool and Die Design	2	6	4
*MEC 4402 Machine Design	3	3	4
*MEC 4425 Thermodynamics	3	3	4
Behavioral/Social Science Elective	3	0	3
			15

Total Credit Hours 121

*Prerequisite or corequisite required; check course description.

†RECOMMENDED TECHNICAL ELECTIVES:

COE	3100	Introduction to Co-Op Work Experience
DFT	3317	Mechanical Computer Aided Drafting (CAD) III—Detailing
DFT	3318	Mechanical Computer Aided Drafting (CAD) IV—Assembly
DFT	3319	CAD Project
DFT	3405	Mechanical Drafting II
DFT	3406	Descriptive Geometry
EDP	3310	Microcomputer Operations
ELN	3407	Electrical/Electronic Devices & Controls
ELN	4415	Industrial Programmable Controllers
ISC	33xx	Introduction to CIM
ISC	3314	Computer Aided Manufacturing (CAM)
ISC	4305	Plant Layout and Materials Handling
ISC	4308	Robotics/Automation
ISC	4314	Inspection and Quality Control
ISC	4316	Process Planning
ISC	4404	Time and Motion Study
MAT	3516	Introduction to SStatistical Process Control
MAT	4507	Engineering Technology Math IV
MEC	4284	Cooperative Work Experience I
MEC	4285	Cooperative Work Experience II
MGT	4333	Production Planning and Control

Medical Assisting (V031)

This curriculum is accredited by the American Medical Association's Commission on Allied Health Education and Accreditation (CAHEA).

Medical Assisting is a one-year curriculum which prepares students to assist physicians in their offices or other medical settings such as hospitals and clinics, performing those administrative and clinical duties delegated by the physician and in accord with respective state laws governing such actions and activities. The business/administrative duties include scheduling and receiving patients, obtaining patient data, maintaining medical records, typing and medical transcription; computer operations; handling telephone calls, correspondence, reports and manuscripts; assuming responsibility for office care, insurance matters, office accounts, fees and collection; and purchasing and maintaining supplies and equipment. The clinical duties may include preparing patients for examinations, obtaining vital signs, taking medical histories, assisting with examinations and treatments, performing routine laboratory procedures including electrocardiograms, sterilizing instruments and equipment for office procedures, and instructing patients in X-ray and laboratory examinations.

Graduates of this program may take the certification examination.

Advanced credits can be awarded toward completion of requirements for an Associate of Applied Science Degree in Medical Assisting Technology.

Individuals desiring a career in medical assisting should, if possible, take biology, mathematics, and typing courses prior to entering the program.

Students are admitted to the program every quarter. Specific entrance tests are required.

A Diploma in Medical Assisting will be awarded by the College upon completion of this program.

For more information, call the Program Director - 704/342-6965, weekdays.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
MED 4302	Ethics and Law	3	0	0	3
SEC 3404	Keyboarding	3	2	0	4
MED 5204	Orientation to Health Careers	2	0	0	2
*ENG 1504	English Composition I	5	0	0	5
MED 3302	Medical Lab Fundamentals	2	2	0	3
		18	4	0	20
SECOND QUARTER					
*MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
*MED 3404	Medical Economics	3	2	0	4
*MET 3400	Introduction to Medical Transcription	2	4	0	4
*EDP 3310	Microcomputer Operations	2	2	0	3
*MED 3303	Clinical Lab I	2	2	0	3
		12	10	0	17

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
THIRD QUARTER					
*MED 5614	Laboratory Procedures	3	6	0	6
*MED 3515	Medical Office Administration	5	0	0	5
*MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
*MED 5503	Clinical Lab II	2	6	0	5
		13	12	0	19
FOURTH QUARTER					
*MED 5707	Medical Office Practice	0	0	21	7
*MED 5104	Medical Assisting Seminar	1	0	0	1
*MED 5315	Advanced Medical Office Procedures	3	0	0	3
*HRC 5302	Professional Interactions and the Health Worker	3	0	0	3
		7	0	21	14

Total Credit Hours 70

*Prerequisite or corequisite required; check course description.

Medical Assisting Technology (T058)

**This curriculum is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation (CAHEA).*

Medical Assisting Technology is a two-year curriculum which prepares students to be multi-skilled practitioners qualified to perform administrative, clinical, and laboratory procedures. The administrative aspects of instruction cover scheduling appointments; processing insurance accounts, medical reports, medical records, medical billing and collection; transcription and computer operations. Clinical and laboratory aspects of study include preparation of patients for examination, assessing vital signs, assisting with examination and treatment, performing routine lab tests, using the electrocardiograph machine, and administration of medication. Developing competencies in effective communication, managerial and supervisory skills, recognizing and responding to emergencies, and demonstrating adherence to ethical and legal standards of medical practices are emphasized.

Graduates of this program may apply to take the certification examination administered by the Certifying Board of the American Association of Medical Assistants.

Graduates may be employed in a variety of health related services, such as physician's offices, hospitals, clinics, industries, insurance companies, public health departments, nursing home and extended care facilities.

Individuals desiring a career as a Medical Assistant should take biology, mathematics, and typing courses prior to entering the program.

Any graduate of the existing one-year Medical Assisting program at Central Piedmont Community College will be admitted with advanced standing.

The Associate in Applied Science Degree—Medical Assisting Technology is awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6965, weekdays.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
MED 4302	Medical Ethics and Law	3	0	0	3
SEC 3404	Keyboarding	3	2	0	4
MED 5204	Orientation to Health Careers	2	0	0	2
*ENG 1504	English Composition I	5	0	0	5
MED 3302	Medical Lab Fundamentals	2	2	0	3
		18	4	0	20
SECOND QUARTER					
*MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
*MED 3404	Medical Economics	3	2	0	4
*MET 3400	Introduction to Medical Transcription	2	4	0	4
*EDP 3310	Microcomputer Operations	2	2	0	3
*MED 3303	Clinical Lab I	2	2	0	3
		12	10	0	17
THIRD QUARTER					
*MED 5614	Laboratory Procedures	3	6	0	6
*MED 3515	Medical Office Administration	5	0	0	5
*MED 3306	Medical Term. & Vocabulary III	3	0	0	3
*MED 5503	Clinical Lab II	2	6	0	5
		13	12	0	19

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FOURTH QUARTER					
*MED 5707	Medical Office Practice	0	0	21	7
*MED 5104	Medical Assisting Seminar	1	0	0	1
*MED 5315	Advanced Medical Office Procedures	3	0	0	3
*HRC 5302	Professional Interactions and the Health Worker	3	0	0	3
		7	0	21	14

After completion of the four-quarter diploma program, the required courses for the Medical Assisting Technology degree program are as follows:

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
MAJOR COURSES					
*MED 3307	Symptomatology	3	0	0	3
*MED 3300	Drug Therapy	3	0	0	3
*MED 5400	Clinical Education A	2	0	6	4
		8	0	6	10
RELATED COURSES					
*MRT 3424	Principles of Disease	4	0	0	4
MGT 4330	Supervision	3	0	0	3
MAT 1504	College Algebra I	5	0	0	5
		12	0	0	12
GENERAL EDUCATION					
*ENG 1505	English Compositin II	5	0	0	5
PSY 2504	General Psychology	5	0	0	5
Elective:	Humanities/Fine Arts	3	0	0	3
		13	0	0	13

Total Credit Hours 105

*Prerequisite or corequisite required; check course description.

NOTE: During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor.

Medical Office Technology (T032)

This curriculum prepares students to enter the medical secretarial profession. The medical secretary performs secretarial duties utilizing the knowledge of medical terminology and medical office and/or laboratory procedures.

Skills are taught in processing medical documents using computerized functions and/or manual functions. Compiling and recording medical charts, reports, case histories, and correspondence using the typewriter or automated office equipment, scheduling appointments, and preparing and sending bills to patients are duties performed in the medical office and taught in this curriculum.

Graduates may find employment opportunities with medical supply and equipment manufacturers, medical laboratories, the office of physicians, hospitals, and other medical care providers.

The Associate in Applied Science Degree—Medical Office Technology will be awarded by the College upon completion of this program.

Credit by examination for some SEC courses can be arranged by contacting the department head. A suggested sequence of required courses for full-time students is listed below. (Course sequence sheets for part-time and evening students or students who wish to take seven quarters are available from the department or the program counselor.)

For more information or answers to questions, call 704/342-6781, weekdays between 9 a.m. and 4 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
SEC 3404	Keyboarding	3	2	0	4
MED 3302	Medical Lab Fundamentals	3	2	0	3
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
ENG 3515	Essentials of Grammar	5	0	0	5
SEC 4324	Information Processing Concepts	3	0	0	3
					18

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*SEC 3405	Document Formatting I	3	2	0	4
FIN 3314	Business Mathematics I	3	0	0	3
*MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
*ENG 1504	English Composition I	5	0	0	5
					18

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*SEC 3406	Document Formatting II	3	2	0	4
SEC 4370	Records Management	2	2	0	3
*MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
*FIN 3315	Business Mathematics II	3	0	0	3
*SEC 4429	Word Processing I	3	2	0	4
SEC 3305	Editing, Proofreading and Reference Skills	3	0	0	3
					20

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*SEC 4416	Medical Document Production	3	2	0	4
*SEC 4305	Business Communications	3	0	0	3
*SEC 4430	Word Processing II	3	2	0	4
*MET 3400	Introduction to Medical Transcription	2	4	0	4
**Related Elective		3	0	0	3
					18

FIFTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
MED 4302	Medical Ethics and Law	3	0	0	3
BUS 3300	Human Relations I	3	0	0	3
SEC 3302	Effective Word Techniques	3	0	0	3
*SEC 4517	General Office Procedures	5	0	0	5
SEC 3104	Electronic Calculators	0	2	0	1
*SEC 4425	Machine Transcription	3	2	0	4
					19

SIXTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
EDP 3310	Microcomputer Operations	2	2	0	3
MGT 4331	Administrative Office Management	3	0	0	3
ACC 3600 ACC 1604	General Accounting **or** Principles of Accounting I	5	2	0	6
*SEC 4201	Secretarial Cooperative Experience I	0	0	20	2
SPH 2300	Voice and Diction	3	0	0	3
#General Education Elective		2	0	0	2
					19

Total Credit Hours 112

*Prerequisite or corequisite required; check course description.

ELECTIVES

#General Education Elective—
ENG, SPH, PSY, SOC, ECO, POL, or HIS prefixes.

**Related Elective—
SEC, EDP, BUS, or MED.

Medical Records (T053)

This curriculum is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation (CAHEA).

CPCC has a transfer agreement for this program with Western Carolina University.

Students should consult with a faculty adviser or program counselor regarding transferability of this program to senior institutions.

The Medical Records curriculum prepares students with the knowledge and skills to serve as a technical assistant to a Medical Record Administrator.

Technical skills include analyzing and processing a medical record to assure completeness and accuracy according to set standards, coding diseases by recognized classification systems, compiling and utilizing various health statistics, releasing medical information in accord with ethical and legal guidelines, transcribing medical records, abstracting and retrieving health information used for evaluating health care services, and supervising one or more health record services. In small hospitals, nursing homes, and clinics, the medical record technician is often employed to manage and process health information.

Placement tests in English, mathematics, and reading are required for entrance into this program.

The Associate in Applied Science Degree—Medical Record Technology will be awarded by the College upon completion.

Graduates are eligible to take the national accreditation examination to become Accredited Record Technicians.

For more information, call the Program Director - 704/342-6452, weekdays.

The first step to enroll: Call the Welcome Center - 704/342-6719.

MAJOR COURSES		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
MRT 3201	Orientation to MRT	2	0	0	2
MRT 3300	Medical Record Content and Maintenance	2	2	0	3
MRT 4312	Legal Aspects of Medical Records	2	2	0	3
MRT 4315	Medical Record Standards and Regulations	3	0	0	3
*MRT 3204	Directed Practice I	0	0	6	2
*MRT 3301	Quality Assurance in Health Care Facilities	2	2	0	3
*MRT 3302	Basic ICD-9-CM Coding	1	4	0	3
*MRT 3424	Principles of Disease	4	0	0	4
*MRT 4408	Intermediate Coding	3	2	0	4
*MRT 3303	Advanced Coding Concepts	1	4	0	3
*MRT 3414	Medical Record Statistics	2	4	0	4
*MRT 4405	Medical Record Seminar	4	0	0	4
*MRT 4406	Directed Practice II	0	0	12	4
*MRT 4407	Directed Practice III	0	0	12	4

GENERAL COURSES:		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
BIO 1504	Human Anatomy and Physiology I	3	4	0	5
BIO 1505	Human Anatomy and Physiology II	3	4	0	5
*ENG 1504	English Composition I	5	0	0	5
#ENG 1505	English Composition II	5	0	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
*MAT 1504	College Algebra I	5	0	0	5
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
*MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
*MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
*MET 3400	Introduction to Medical Transcribing	2	4	0	4
MGT 4330	Supervision	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
SEC 3404	Keyboarding	3	2	0	4
*SEC 3405	Document Formatting I	3	2	0	4
SPH 1301	Persuasive Speaking	3	0	0	3

Total Credit Hours 105

*Prerequisite or corequisite required; check course description.

#ENG 3405 may be substituted with departmental approval.

NOTE: During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor. The curriculum may be taken on a full-time or part-time basis.

Medical Transcription (V127)

The Medical Transcription curriculum provides students with the knowledge and skills necessary for employment as a medical transcriptionist. This objective is fulfilled through study and application in transcribing medical records, transcribing correspondence from machines, and filing of correspondence, records, and other data.

A Certificate will be awarded by the College upon completion of this program.

For more information, call the Allied Health Department - 704/342-6928.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER				
ENG 3515 Essentials of Grammar	5	0	0	5
MED 3304 Medical Terminology & Vocabulary I	3	0	0	3
SEC 3404 Keyboarding	3	2	0	4
MED 3302 Medical Lab Fundamentals	2	2	0	3
				15
SECOND QUARTER				
*SEC 3405 Document Formatting I	3	2	0	4
*MED 3305 Medical Terminology & Vocabulary II	3	0	0	3
*MET 3400 Introduction to Medical Transcription	2	4	0	4
*MED 3515 Medical Office Administration	5	0	0	5
				16

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
THIRD QUARTER				
*MED 3306 Medical Terminology & Vocabulary III	3	0	0	3
*SEC 4429 Word Processing I	3	2	0	4
*MET 3904 Transcription	4	10	0	9
				16
FOURTH QUARTER				
*MET 3204 Medical Transcription Seminar	2	0	0	2
*MET 3505 Clinical Practice I	1	0	12	5
*MET 3406 Clinical Practice II	0	0	12	4
				11

Total Credit Hours 58

*Prerequisite or corequisite required; check course description.

Nursing, Associate Degree (T059)

The Associate Degree Nursing curriculum prepares graduates to integrate the principles and theories of nursing and the sciences in utilizing the nursing process in the practice of nursing. The practice of nursing by associate degree nursing graduates consists of assessing the patient's physical and mental health, including the patient's reaction to illness and treatment regimens; recording and reporting the results of the nursing assessment; planning, initiating, delivering, and evaluating appropriate nursing acts; teaching, delegating to or supervising other personnel in implementing the treatment regimen; collaborating with other health care providers in determining the appropriate health care for a patient; implementing the treatment and pharmaceutical regimen prescribed by any person authorized by State law to prescribe such a regimen; providing teaching and counseling about the patient's health care; reporting and recording the plan for care, nursing care given, and the patient's response to that care; and supervising, teaching, and evaluating those who perform or are preparing to perform nursing functions.

Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN), which is required for practice as a registered nurse.

Admission to the program is based upon satisfactory scores on specific entrance tests, personal interview, and evidence of good physical and mental health. Completion of high school courses in chemistry and algebra or equivalents are required. Individuals desiring a career in registered nursing should take biology courses prior to entering the program. Applicants must submit a complete high school transcript supporting their high school diploma, or other evidence of a high school education.

The Associate in Applied Science Degree—Nursing will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Counselor - 704/342-6656, or the Department Head - 704/342-6725, weekdays between 9 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER				
*NUR 3305 Nutrition for Nurses	3	0	0	3
*NUR 3704 Fundamentals of Nursing I	3	4	6	7
BIO 1504 Anatomy and Physiology I	3	4	0	5
*MAT 1504 College Algebra I	5	0	0	5
				20
SECOND QUARTER				
*NUR 3805 Fundamentals of Nursing II	3	4	9	8
BIO 1505 Anatomy and Physiology II	3	4	0	5
PSY 2504 General Psychology	5	0	0	5
				18
THIRD QUARTER				
*NUR 3904 Care of the Adult Patient I	3	4	12	9
*NUR 3216 Physical Assessment	2	0	0	2
BIO 1503 Microbiology	3	4	0	5
SPH 1301 Persuasive Speaking **or**				
SPH 2300 Voice and Diction **or**				
SPH 2304 Public Speaking	3	0	0	3
				19
FOURTH QUARTER				
*NUR 3905 Care of the Adult Patient II	4	2	12	9
*PSY 2514 Abnormal Psychology	5	0	0	5
				14
†FIFTH QUARTER				
†*NUR 4614 Maternal-Newborn Nursing (5½ weeks)	3	2	6	6
†*NUR 4615 Psychiatric Nursing (5½ weeks)	3	2	6	6
*ENG 1504 English Composition I	5	0	0	5
				17
†SIXTH QUARTER				
*NUR 4915 Nursing of Children	3	2	15	9
*ENG 1505 English Composition II	5	0	0	5
SOC 2514 Introduction to Sociology	5	0	0	5
				19
SEVENTH QUARTER				
*NUR 4304 Nursing Perspectives	3	0	0	3
*NUR 4606 Advanced Care of the Adult Patient	5	2	0	6
*NUR 4505 Nursing Practicum—Advanced Care	0	0	15	5
Elective	3	0	0	3
				17

Total credit hours 124

*Prerequisite or corequisite required; check course description.

†Sequence of Fifth and Sixth Quarters may be reversed for one-half of class.

Nursing, Practical (V038)

Practical Nursing curriculum graduates are prepared to take the National Council Licensure Examination required to practice as a licensed practical nurse. The Practical Nursing curriculum is designed to develop competencies in practicing the following five components of practice as defined by the North Carolina *Nurse Practice Act,* 1981: (1) participating in assessing the client's physical and mental health including the client's reaction to illnesses and treatment regimens; (2) recording and reporting the results of the nursing assessment; (3) participating in implementing the health care plan developed by the registered nurse and/or prescribed by any person authorized by State law to prescribe such a plan, by performing tasks delegated by and performed under the supervision or under orders or directions of a registered nurse, physician licensed to practice medicine, dentist, or other person authorized by State law to provide such supervision; (4) reinforcing the teaching and counseling of a registered nurse, physician licensed to practice medicine in North Carolina, or dentist; and (5) reporting and recording the nursing care rendered and the client's response to that care.

Licensed practical nurses may be employed in hospitals, nursing homes, clinics, doctors' offices, industry, and public health agencies.

Individuals desiring a career in practical nursing should be encouraged to take math and science courses in high school.

Admission is based upon satisfactory scores on specific entrance tests, personal interview, and evidence of good physical and mental health. Applicants must submit a completed high school transcript or its equivalent. Students are admitted in the Fall Quarter each year.

A Diploma is awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Counselor - 704/342-6656, or the Department Head - 704/342-6725, weekdays between 9 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
*NUP 5300	Basic Principles of Drug Administration	3	0	0	3
*NUP 5804	Introduction to Patient Care	6	4	0	8
*NUP 5204	Nursing Practicum—Basic Clinical Skills	0	0	6	2
BIO 3301	Basic Health Science I	3	0	0	3
HSA 5200	Human Relations	2	0	0	2
					18
SECOND QUARTER					
*NUP 5703	Care of Patients with Medical/ Surgical Conditions I	5	4	0	7
*NUP 5502	Nursing Practicum I	0	0	15	5
*NUR 3305	Nutrition for Nurses	3	0	0	3
BIO 3302	Basic Health Science II	3	0	0	3
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	0	2
					20

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
THIRD QUARTER					
*NUP 5705	Care of Patients with Medical/ Surgical Conditions II	6	2	0	7
*NUP 5503	Nursing Practicum II	0	0	15	5
ENG 5500	Communications Skills	5	0	0	5
HSA 3202	Crisis Intervention	2	0	0	2
					19
FOURTH QUARTER					
*NUP 5406	Care of Infants and Children	3	2	0	4
*NUP 5302	Nursing Practicum III	0	0	9	3
*NUP 5407	Care of Mothers and Newborn Infants	3	2	0	4
*NUP 5303	Nursing Practicum IV	0	0	9	3
*NUP 5304	Nursing Seminar	3	0	0	3
					17

Total Credit Hours 74

*Prerequisite or corequisite required; check course description.

Paralegal Technology (T120)

CPCC has a transfer agreement for this program with Wingate College and the University of North Carolina at Charlotte. Students should consult with a faculty adviser or program counselor regarding transferability of this program to senoir institutions.

The Paralegal Technology curriculum trains graduates to work under the general direction of lawyers, to relieve lawyers of routine matters, and to assist them in the conduct of more complicated and difficult tasks. The legal technician should be capable of doing independent legal work under the supervision of a lawyer, supervise secretaries in their work for the lawyer, and search out information and court facts for the lawyer. Training will include general subjects such as English, accounting and logic, as well as specialized legal courses in legal definitions, court systems, laws, and techniques of research.

Graduates of the Paralegal Technology curriculum should be able to directly assist a lawyer or group of lawyers in most facets of law, but they must always work under the supervision of a lawyer. The legal technician will not be qualified to give legal advice, enter into courtroom procedure, or be involved in litigation except as an assistant to the lawyer. Paralegal graduates will be able to assist in work on probate matters, conducting investigations, searching public records, preparation of tax forms, serving and filing legal documents, bookkeeping, library research, and providing office management assistance. Employment opportunities are available in public and private law firms, and with individual lawyers, government agencies and corporations.

The Associate in Applied Science Degree—Paralegal Technician will be awarded by the College upon completion of this program.

The Computerized Placement Tests for Reading and English are required for admission to the program.

Students should complete LEX 3300, LEX 3310, and BUS 2304 before taking other courses in the program.

For more information or answers to questions, call the Program Director3 - 704/42-6646 or 342-6873, weekdays between 8 a.m. and 4 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MAJOR COURSES				
BUS 2304	Business Law I	3	0	3
*BUS 2305	Business Law II	3	0	3
*BUS 2306	Business Law III	3	0	3
LEX 3300	Case Analysis and Reasoning	3	0	3
LEX 3306	Administrative Law	3	0	3
LEX 3310	North Carolina Legal Systems	3	0	3
*LEX 3320	Evidence	3	0	3
*LEX 3404	Legal Research	2	4	4
LEX 4280	Legal Ethics	2	0	2
LEX 4300	Domestic Relations Law	3	0	3
LEX 4313	Collectons and Bankruptcy	3	2	4
*LEX 4314	Wills, Trusts and Probate	3	0	3
LEX 4321	Tort Law	3	0	3
LEX 4322	Corporate Law	3	0	3
*LEX 4323	Legal Writing	3	0	3
LEX 4322	Corporate Law	3	0	3
*LEX 4332	Trial Preparation and Procedures	3	0	3
LEX 4361	Interpreting Medical Reports	3	0	3
*LEX 4420	Real Property Law and Title Abstracting	3	2	4
†Technical Electives		12	0	12
				67

		HRS CLS /WK	HRS LAB WK	HRS CR/ QTR
RELATED COURSES				
ACC 1604	Principles of Accounting	5	2	6
BUS 3300	Human Relations	3	0	3
*EDP 3310	Microcomputer Operations	2	2	3
MAT 1504	College Algebra I or a laboratory science elective	5	0	5
RES 3601	Fundamentals of Real Estate	6	0	6
SEC 3301	Legal Terminology and Vocabulary	3	0	3
*SEC 4426, SEC 4427, or SEC 4428 —	Word Processing	3	2	4
				30
GENERAL EDUCATION				
ENG 1504	English Composition I	5	0	5
ENG 1505	English Composition II or	5	0	5
**ENG 3405	Technical English II			
PHY 2500	Logic	5	0	5
SPH 2300	Voice and Diction	3	0	3
Social Science Elective		5	0	5
				23
ELECTIVES				
Electives		3	0	3

Total Credit Hours 123

*Prerequisite or corequisite required; check course description.

**Not a college transfer course.

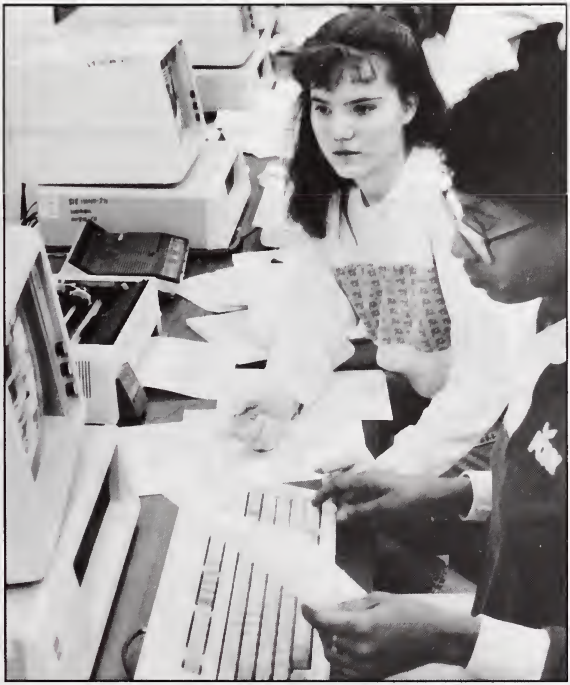
***It is strongly suggested that this course be taken the last quarter before the student's graduation and that no other day classes be taken that quarter.

(continued)

†TECHNICAL ELECTIVES

In consultation with advisors, student selects 12 credit hours from the courses listed below:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BAF	3405	Law and Banking Principles	4	0	4
BAF	4414	Real Estate Finance	4	0	4
COE	3100	Introduction to Cooperative Work	1	0	1
FIN	4334	Business Finance I	3	0	3
INS	4321	Income Taxation for Financial Planning	3	0	3
INS	4326	Pensions and Other Retirement Plans	3	0	3
INT	3300	Introduction to International Business	3	0	3
INT	4307	International Business Law	3	0	3
***LEX	4290	Cooperative Work Experience	0	20	2
LEX	4341	Workers' Compensation Law	3	0	3
MGT	3303	Small Business Management	3	0	3
MGT	4330	Supervision	3	0	3
PSC	4505	Criminal Investigations	5	0	5



Pharmacy Technology (T161)

The Pharmacy Technology curriculum prepares pharmacy technicians to transcribe physicians' medication orders, fill orders to be checked by pharmacists, deliver orders, prepare admixtures of intravenous solutions, maintain control of drug distribution, price and order drugs, prepare bulk formulations, replenish pharmaceutical supplies and medications on patient care units, file prescriptions, maintain patient profile records, and perform clerical duties.

Graduates may be employed in hospital and nursing home pharmacies, in private and chain drugstores, by drug manufacturers, and in wholesale drug companies.

Individuals desiring a career in pharmacy technology should, if possible, take biology, algebra, chemistry and typing courses prior to entering the program.

A Certificate will be awarded by the College upon completion of this program.

For more information, call the Allied Health Department - 704/342-6928.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
PHM 5301	Pharmacology I	3	0	0	3
PHM 5302	Hospital Pharmacy I	2	2	0	3
					6
SECOND QUARTER					
*PHM 5306	Pharmacology II	3	0	0	3
*PHM 5303	Hospital Pharmacy II	2	2	0	3
PHM 5404	Pharmacy Math	4	0	0	4
*PHM 5208	Hospital Practicum I	0	0	6	2
					12
THIRD QUARTER					
*PHM 5505	Hospital Practicum II	1	0	12	5
*PHM 5406	Hospital Practicum III	0	0	12	4
PHM 5204	Community Pharmacy	2	0	0	2
					11

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
RELATED COURSES					
MED 3302	Medical Lab Fundamentals	2	2	0	3
MED 3304	Medical Terminology I	3	0	0	3
SEC 5200	Computer Keyboarding	1	2	0	2
EDP 5201	CRT Use in Business Applications	2	0	0	2
MED 4302	Medical Ethics and Law	3	0	0	3
HRC 5300	Professional Interactions and the Health Worker	3	0	0	3
					16

Total Credit Hours 45

*Prerequisite or corequisite required; check course description.

Physical Therapist Assistant (T062)

This program is accredited by the American Physical Therapy Association.

The Physical Therapist Assistant curriculum prepares graduates to assist the professional physical therapist in a variety of direct patient care services, delegated by the supervising therapist, to restore function by alleviation or prevention of physical impairment, and other activities essential to the operation of a physical therapy service. The graduate is eligible to take the licensing examination given by the North Carolina Board of Physical Therapy Examiners.

Employment opportunities are available in general hospitals, rehabilitation centers, extended care facilities, specialty hospitals, home health agencies, private clinics, and public school systems.

Suggested preparatory courses for individuals desiring a career in physical therapy assisting would include biology, algebra and, possibly, chemistry.

The Associate in Applied Science Degree—Physical Therapist Assistant is awarded by the College upon completion.

For more information on required placement tests or answers to questions, call the Program Director - 704/342-6505, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
BIO 1504	Human Anatomy and Physiology I	3	4	0	5
PSY 2504	General Psychology	5	0	0	5
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
HED 1203	Cardiopulmonary Resuscitation	2	0	0	2
*PTH 3604	Introduction to Physical Therapy	3	6	0	6
#Elective					
					21
SECOND QUARTER					
BIO 1505	Human Anatomy and Physiology II	3	4	0	5
*ENG 1504	English Composition I	5	0	0	5
*PTH 3624	Physical Therapy Procedures I	3	6	0	6
*PTH 3615	Applied Anatomy	3	6	0	6
#Elective					
					22
THIRD QUARTER					
*ENG 1505	English Composition II	5	0	0	5
*PTH 3526	Clinical Problems in Physical Therapy	5	0	0	5
*PTH 3525	Physical Therapy Procedures II	3	0	6	5
*PTH 3714	Therapeutic Exercise	3	8	0	7
#Elective					
					22
FOURTH QUARTER					
*MAT 1504	College Algebra I	5	0	0	5
*PTH 4627	Physical Therapy Procedures III	3	0	9	6
*PTH 4324	Psychology of Adjustment	3	0	0	3
#Elective					
					14

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIFTH QUARTER					
SPH 1300	Oral Communication	3	0	0	3
*PTH 4728	Physical Therapy Procedures IV	3	0	12	7
*PTH 4334	Community Health and Welfare	3	0	0	3
#Elective:	(Humanities or Fine Arts)	5	0	0	5
					18
SIXTH QUARTER					
*PTH 4344	Seminar in Physical Therapy Procedures	3	0	0	3
*PTH 4604	Clinical Education I	0	0	18	6
*PTH 4605	Clinical Education II	0	0	18	6
					15

Total Credit Hours 112

*Prerequisite or corequisite required; check course description.

#Elective: 1 credit hour in electives is required in addition to the courses listed, and must be taken in any of the first 5 quarters.

Piano Tuning and Repair (V118)

According to the American Music Conference, there are fifteen million pianos in the United States. At any given time, 95% of these are out of tune. For the trained piano technician, this is an untapped market for a challenging career.

This curriculum equips students with the basic skills essential to building a clientele of customers who have their pianos tuned. The curriculum provides the practical, hands-on experience in refelting, regulating, repair, or replacement of parts, and the aural method of tuning. To play the piano is not necessary; in fact, to play other instruments or to have choral experience is even more desirable. The nature of the profession demands that students be meticulous, patient, and persistent.

Before entering the program, the Seashore Intonation Test is required.

A Diploma in Piano Tuning and Repair will be awarded by the College upon successful completion of this program.

For more information or answers to questions, call 704/342-6618, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MUS	1154	Class Piano I	0	3	1
PTR	5300	Piano Technology—The Instrument and Tools	3	0	3
PTR	5210	Piano Actions	0	6	2
PTR	5607	Fundamentals of Tuning I	2	12	6
PTR	5200	Piano Service Seminar	2	0	2
EDP	3310	Microcomputer Operations	2	2	3
					17

SECOND QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PTR	5608	Fundamentals of Tuning II	2	12	6
PTR	5211	Vertical Regulation	1	3	2
PTR	5212	Hammer Replacement	1	3	2
PTR	5200	Piano Service Seminar	2	0	2
ENG	5500	Communication Skills	5	0	5
					17

THIRD QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PTR	5213	Grand Regulation	1	3	2
PTR	5709	Intermediate Tuning	3	12	7
PTR	5214	Restringing	1	3	2
PTR	5200	Piano Service Seminar	2	0	2
BUS	3300	Human Relations	3	0	3
					16

FOURTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PTR	5710	Advanced Tuning	3	12	7
PTR	5200	Piano Service Seminar	2	0	2
ART	1314	Woodworking I	0	6	3
MGT	5200	Shop Management	2	0	2
PTR	5301	Piano Technology—The Technician	3	0	3
					17

FIFTH QUARTER—Piano Restoration (Optional)

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ART	1317	Furniture Restoration I	0	6	3
PTR	5330	Tuning Practicum	0	9	3
					6

Total Credit Hours 73

Postal Service Technology (T141)

The Postal Service Technology curriculum provides opportunities for advancement for present and future employees of the U.S. Postal Service. Graduates of the program will be prepared to work in a variety of positions. The course of study includes: postal organization, mail processing, employee and customer services, mail delivery and collection, problem analysis, related business/management subjects, and general education courses.

The Associate in Applied Science Degree—Postal Service Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6646, weekdays between 8 a.m. and 4:30 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 2304 Business Law I	3	0	3
BUS 3300 Human Relations	3	0	3
*ENG 1504 English Composition I	5	0	5
†FIN 3314 Business Mathematics I	3	0	3
PSM 3300 Postal Service History and Organization	3	0	3
Elective	3	0	3
			20

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
†*ENG 3405 Technical English II	4	0	4
ECO 2304 Economics I	3	0	3
†FIN 3315 Business Mathematics II	3	0	3
PSM 3301 Postal Service Labor Management	3	0	3
PSM 4320 Postal Employee Services	3	0	3
			16

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604 Principles of Accounting I	5	2	6
*BUS 2305 Business Law II	3	0	3
*ECO 2305 Economics II	3	0	3
PSM 3304 Mail Processing I	3	0	3
			15

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 1605 Principles of Accounting II	5	2	6
PSM 3305 Mail Processing II	3	0	3
PSM 4301 Postal Service (Support) Finance	3	0	3
SPH 1300 Oral Communications	3	0	3
PSM 4332 Postal Service Safety Training	3	0	3
			18

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
EDP 1500 Computer Literacy	5	0	5
MGT 2314 Principles of Management	3	0	3
PSM 4321 Postal Customer Services	3	0	3
PSM 4330 Postal Delivery and Collection	3	0	3
***General Education Elective(s) (Natural Science or Math)	5	0	5
			19

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
EDP 3324 Advanced Microcomputer Operations	2	2	3
MGT 4330 Supervision	3	0	3
PSM 4331 Postal Problem Analysis: Function Four Review	3	0	3
Elective	3	0	3
**General Education Elective (Humanities or Fine Arts)	3	0	3
			15

Total Credit Hours 103

*Prerequisite or corequisite required; check course description.

†MAT 1504, MAT 1505, MAT 1514, ENG 1305, ENG 1306 may be taken if student has met requirements.

**General Education Electives — Humanitis or Fine Arts must have ART, DRA, ENG, FRE, GER, HUM, MUS, PHI, or SPH prefixes.

***General Education Electives — Natural Sciences or Math must have MAT, BIO, CHM, GEL, GEO, or PHY prefixes.

Real Estate (T127)

The purpose of the Real Estate curriculum is to prepare students to enter the real estate industry, to provide an educational program for persons directly involved in various phases of the real estate industry, and provide an opportunity for individuals wanting to fulfill professional or general interest needs.

This purpose will be fulfilled through a thorough introduction to real estate principles, practices, finance, law, appraisal techniques, and trends.

The curriculum provides the opportunity for an individual to enter public or private employment in real estate areas such as sales, finance, development, market analysis, valuation, and property management. Advanced real estate job opportunities are available in areas such as brokerage, management, appraising, or consulting.

A Certificate of Completion will be awarded to students who successfully complete (A, B, or C grade and required attendance) the salesman and broker prelicensing courses.

The Associate in Applied Science Degree—Real Estate will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6562, weekdays between 8 a.m. and 4:30 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 1500	Introduction to Business	5	0	5
ENG 1504	English Composition I	5	0	5
††FIN 3314	Business Mathematics I	3	0	3
RES 3601	Fundamentals of Real Estate (Salesman Prelicensing)	6	0	6
				19

SECOND QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604	Principles of Accounting I	5	2	6
††ENG 3405	Technical English II	4	0	4
††FIN 3315	Business Mathematics II **or**			
FIN 3330	Real Estate Arithmetic	3	0	3
RES 4301	Real Estate Law (Broker Prelicensing)	3	0	3
RES 4302	Real Estate Finance (Broker Prelicensing)	3	0	3
				19

THIRD QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1605	Principles of Accounting II **or**			
ACC 3500	Small Business Accounting	5	2	6
BUS 3300	Human Relations	3	0	3
ECO 2304	Economics I	3	0	3
MKT 3320	Fundamentals of Selling	3	0	3
RES 4303	Real Estate Brokerage Operations (Broker Prelicensing)	3	0	3
				18

FOURTH QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ECO 2305	Economics II	3	0	3
	Humanities Elective or Fine Arts (Choose from ART, ENG, HUM, MUS)	3	0	3
	Natural Science Elective or Math (Choose from GEL, 1604, GEO, MAT)	5	2	6
SPH 1300	Oral Communications	3	0	3
				15

FIFTH QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 2304	Business Law I	3	0	3
INS 4294	General Insurance Part I - Introduction	2	0	2
MGT 2314	Principles of Management	3	0	3
RES 4315	Governmental Land Use Controls	3	0	3
RES 4371	Real Estate Property Management	3	0	3
RES 4381	Residential Real Estate Appraisal I	3	0	3
				17

SIXTH QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
EDP 3310	Microcomputer Operations	2	2	3
RES 4311	Residential Real Estate Sales	3	0	3
RES 4385	Income Real Estate Appraisal I	3	0	3
RES 4391	Commercial and Industrial Real Estate	3	0	3
	†Technical Elective	3	0	3
				15

SEVENTH QUARTER

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MGT 3303	Small Business Management	3	0	3
	†Technical Electives	9	0	9
				12

Total Credit Hours 115

††MAT 1504, MAT 1505, MAT 1514, MAT 1515, ENG 1505 are recommended for students planning to transfer to senior institutions.

†TECHNICAL ELECTIVES—Select 12 credit hours after consultation with a faculty advisor.

Course	Title	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*BUS 2306	Business Law III	3	0	3
*BUS 3304	Business Statistics	3	0	3
*ECO 2306	Ecomonics III	3	0	3
*INS 4396	General Insurance Part III—Fire and Casualty	3	0	3
*MKT 4305	Advanced Selling Skills	3	0	3
*RES 4382	Residential Real Estate Appraisal II	3	0	3
*RES 4393	Real Estate Investment Analysis	3	0	3
*RES 4395	Commercial Real Estate Finance	3	0	3

Recreation Associate (T094)

The Recreation Associate curriculum trains individuals to plan and direct recreational activities for all age groups. The program is divided to meet the needs of those who work with the following categories of people and facilities: pre-school, school age, adults, senior citizens, public and private recreational sites and facilities. Practical administration will be provided in all areas of instruction.

Employment opportunities for professionally trained leaders exist in community programs, projects for local governments, YMCAs, YWCAs, boys' clubs, Boy Scouts, Girl Scouts, hospitals, nursing homes, penal institutions, state parks, federal parks, industry, public and private resorts, summer camps, rehabilitation programs, and regional institutions.

The Associate in Applied Science Degree—Recreation will be awarded by the College upon completion of this program.

For more information or answers to questions, call 704/342-6937, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
REQUIRED COURSES			
ART 1364 Ceramics I	0	6	3
BIO 1504 Human Anatomy & Physiology I	3	4	5
BIO 1505 Human Anatomy & Physiology II	3	4	5
BUS 3300 Human Relations in Business	3	0	3
EDP 1500 Computer Literacy	5	0	5
ENG 1504 English Composition I	5	0	5
ENG 1505 English Composition II	5	0	5
*FIN 3314 Business Math I	3	0	3
HED 1203 CPR	2	0	2
HED 1204 Standard First Aid	1	2	2
HED 1208 Personal Fitness Analysis	1	2	2
HED 1300 Introduction to Health Education	3	0	3
HED 2204 Prevention & Treatment of Injuries in Recreation	1	2	2
HPE 1186 Swimming - Immediate	0	3	1
HPE 1200 Creative Arts in Recreation	1	3	2
HPE 1203 Water Safety Instructor	1	3	2
HPE 1214 Pool Maintenance and Water Activities	1	3	2
HPE 1215 Lifeguard Training	1	3	2
HPE 1404 Introduction to Recreation	3	3	4
HPE 1405 Team Sports & Games In Recreation	3	3	4
HPE 2200 Sports Officiating	1	3	2
HPE 2305 Program Planning In Recreation	2	3	3
HPE 2306 Priniciples of Physical Fitness	2	3	3
HPE 2307 Organization & Management in Recreation			
HPE 2314 Lifetime Activities	2	3	3
HPE 2325 Introduction to Outdoor Recreation	2	3	3
HPE 2404 Facility Maintenance & Design	3	3	4
HPE 2405 Leadership & Supervision in Recreation	3	3	4
HPE 2434 Recreation & Special Populations	3	3	4
HSA 5200 Human Relations	2	0	2
SOC 1301 Group Interaction	3	0	3
SPH 1300 Oral Communications	3	0	3
ELECTIVES			
Elective of Choice			3
Major Elective			5
Related Elective			3
General Elective			6

Total credit hours 116

ELECTIVES

Major Courses: Five (5) hours can be chosen

GEN 1141 Introduction to Nature Photography
GEN 1142 Field Biology/Ecology of North Carolina
GEN 1143 Edible Wild Plants
GEN 1144 Ecology by Canoe
HPE 1126 Social Dance Beginning
HPE 1147 Tennis Beginning
HPE 1170 Aerobics
HPE 1174 Rock Climbing
HPE 1176 Introduction to Backpacking
HPE 1178 Horseback Riding
HPE 1180 Orienteering
HPE 1190 Introduction to Golf
HPE 2112 Basic Canoeing
**HPE 3110 Cooperative Education I
**HPE 3210 Cooperative Education II

Related Courses: Three (3) hours can be chosen

ART 1365 Ceramics II
ART 1384 Basic Camera Techniques
DAN 1184 Modern Dance I
DRA 1500 Introduction to Drama
EDU 2500 Introduction to Education
MKT 4321 Advertising

General Education: Six (6) hours can be chosen

ENG 1324 Creative Writing
PSY 1500 Psychology of Adjustment
PSY 2504 General Psychology
SPH 2304 Public Speaking

*MAT 1504, MAT 1505, or MAT 1514, MAT 1515 may be taken if students have met requirements.

**HPE 3110, HPE 3210 taken only by departmental approval.

Respiratory Care Technology (T091)

This program is certified by the Committee on Allied Health Education and Accreditation.

Respiratory Care Technology offers career education for students interested in becoming a respiratory therapy technician or respiratory therapist.

A respiratory therapist is qualified to assume primary responsibility for respiratory and cardiac care, including the supervision of technicians. The therapist makes patient care decisions concerning the use of life-support systems, oxygen therapy, and other breathing treatments. They also perform heart and lung studies. Graduates of the therapist program receive an associate degree.

The technician performs tasks which include oxygen therapy, breathing treatments, and equipment maintenance. Graduates of the technician program receive a diploma.

Graduates of accredited programs are eligible to apply for admission to the entry-level examination. Graduates of an accredited therapist program are also eligible to take the advanced practitioner examinations. These examinations are given by the National Board for Respiratory Care.

Graduates may be employed in hospitals, clinics, nursing homes, education, industry, and home care.

The program begins each Fall. Placement tests are required before entering the program, and early application is advisable. NOTE: The CPCC program is for Respiratory Therapist — **not** Technician.

The Associate in Applied Science Degree — Respiratory Care Technology will be awarded by the College upon completion of this program.

For more information, call 704/342-6274 or 342-6795.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
BIO 1504	Anatomy and Physiology I	3	4	0	5
*†MAT 1504	College Algebra	5	0	0	5
*RTH 3601	Introduction to Respiratory Care	4	0	6	6
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
					19
SECOND QUARTER					
BIO 1503	Microbiology	3	4	0	5
BIO 1505	Anatomy and Physiology II	3	4	0	5
*RTH 3202	Introduction to Pathology and Physical Diagnosis	2	0	0	2
*RTH 3305	Respiratory Pharmacology	3	0	0	3
*RTH 3602	Respiratory Care Procedures I	2	4	6	6
					21
THIRD QUARTER					
BIO 3404	Cardiopulmonary Anatomy and Physiology	3	2	0	4
*RTH 3304	Pathology and Physical Diagnosis	2	2	0	3
*RTH 3702	Respiratory Care Procedures II	2	4	9	7
PHY 3414	Physics of Respiratory Care	3	2	0	4
					18
FOURTH QUARTER					
*†CHM 3501	Respiratory Care Chemistry	4	2	0	5
*RTH 4814	Introd. to Emergency and Intensive Resp. Care	2	2	15	8
*RTH 4415	Equipment for Continuous Ventilation	2	4	0	4
					17

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIFTH QUARTER					
*ENG 1504	English Composition I	5	0	0	5
*RTH 4417	Neonatal and Pediatric Respiratory Care	2	0	6	4
*RTH 4724	Continuous Ventilation	3	2	9	7
§Elective					3
					19
SIXTH QUARTER					
*†ENG 3405	Technical English II	4	0	0	4
*RTH 4504	Pulmonary Functions I	2	0	9	5
*RTH 4505	Pulmonary Functions II	2	2	6	5
§Elective					3
					17
SEVENTH QUARTER					
*RTH 4606	Clinical Application I	2	0	12	6
*RTH 4607	Clinical Application II	2	0	12	6
SPH 1300	Oral Communications	3	0	0	3
					15

Total Credit Hours 126

*Prerequisite or corequisite required; check course description.

§Three credit hours required in Behavioral or Social Science **and** three credit hours requied in Humanities or Fine Arts.

†See program faculty before registering for this course.

Secretary, General Office (T033)

(Six-Quarter Curriculum)

The purpose of the General Office curriculum is to prepare the students to enter clerical-office occupations, provide an educational program for individuals wanting education for upgrading (moving from one position to another) or retraining (moving from present position to a clerical position), and to provide an opportunity for individuals wanting to fulfill professional or general interest needs.

This purpose will be fulfilled through skill development in the areas of typewriting, filing, and business machines. Through these skills and through development of personal competencies and qualities, graduates will be able to function effectively in office-related activities.

The Associate in Applied Science Degree—General Office will be awarded by the College upon completion of this program.

Credit by examination for some SEC courses can be arranged by contacting the department head. A suggested sequence of required courses for full-time students is listed below. (Course sequence sheets for part-time and evening students or students who wish to take seven quarters are available from the department or the program counselor.)

For more information or answers to questions, call 704/342-6781, weekdays between 9 a.m. and 4 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER				
SEC 3404 Keyboarding	3	2	0	4
ENG 3515 Essentials of Grammar	5	0	0	5
SEC 3302 Effective Word Techniques	3	0	0	3
SEC 4324 Information Processing Concepts	3	0	0	3
BUS 3300 Human Relations I	3	0	0	3
				18
SECOND QUARTER				
*SEC 3405 Document Formatting I	3	2	0	4
*ENG 1504 English Composition I	5	0	0	5
SEC 3320 Personal Projection	3	0	0	3
BUS 2304 Business Law I	3	0	0	3
EDP 3310 Microcomputer Operations	2	2	0	3
				18
THIRD QUARTER				
SEC 3305 Editing, Proofreading and Reference Skills	3	0	0	3
SEC 4370 Records Management	2	2	0	3
FIN 3314 Business Mathematics I	3	0	0	3
SPH 2300 Voice and Diction	3	0	0	3
*SEC 4429 Word Processing I	3	2	0	4
				16
FOURTH QUARTER				
SEC 3311 Receptionist Skills	3	0	0	3
*SEC 3406 Document Formatting II	3	2	0	4
*SEC 4430 Word Processing II	3	2	0	4
*SEC 4305 Business Communications	3	0	0	3
‡Related Elective	3	0	0	3
				17

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIFTH QUARTER				
*SEC 4407 Document Production	3	2	0	4
SPH 1300 Oral Communcations	3	0	0	3
*SEC 3104 Electronic Calculators	0	2	0	1
*SEC 4425 Machine Transcription	3	2	0	4
*SEC 4517 General Office Procedures	5	0	0	5
				17
SIXTH QUARTER				
ACC 1604 Principles of Accounting I **or** ACC 3600 General Accounting	5	2	0	6
*SEC 4201 Secretarial Cooperative Experience I	0	0	20	2
*EDP 3324 Advanced Microcomputer Operations	2	2	0	3
‡Related Elective	3	0	0	3
‡General Elective	2	0	0	2
				16

Total Credit Hours 102

*Prerequisite or corequisite required; check course description.

‡ELECTIVES

General Education Elective—

ART, DRA, ENG, ECO, FRE, GER, HIS, HUM, ITA, MUS, PHI, POL, PSY, RUS, SPA prefixes.

Related Electives—

ACC, ADV, BAF, BUS, EDP, FIN, INS, INT, LEX, MGT, MKT, RES, TRN.

Secretary, Legal (T031)

The Secretarial-Legal curriculum prepares students to enter the legal secretarial profession through work in a lawyer's office in city, county, state, or government offices; it provides an educational program for individuals wanting education for upgrading (moving from one legal secretarial position to another legal secretarial position); and it provides an opportunity for individuals wanting to fulfill professional or general interest needs.

Students develop skills in the areas of legal typewriting, shorthand transcription, and business machines. Through these skills, they will be able to perform legal, office-related activities and, through the development of personal competencies and qualities, graduates will be qualified to enter the legal secretaial profession.

The Associate in Applied Science Degree—Legal Secretary will be awarded by the College upon completion of this program.

Credit by examination for some SEC courses can be arranged by contacting the department head. A suggested sequence of required courses for full-time students is listed below. (Course sequence sheets for part-time and evening students or students who wish to take seven quarters are available from the department or the program counselor.)

For more information or answers to questions, call 704/342-6781, weekdays between 9 a.m. to 4 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
SEC 3404 Keyboarding	3	2	0	4
ENG 3515 Essentials of Grammar	5	0	0	5
SEC 3301 Legal Terminology & Vocabulary	3	0	0	3
SEC 4324 Information Processing Concepts	3	0	0	3
BUS 3300 Human Relations I	3	0	0	3
				18

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*SEC 3405 Document Formatting I	3	2	0	4
SEC 3414 Shorthand I	3	2	0	4
*ENG 1504 English Composition I	5	0	0	5
BUS 2304 Business Law I	3	0	0	3
EDP 3310 Microcomputer Operations	2	2	0	3
				19

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*SEC 3415 Shorthand II	3	2	0	4
SEC 3305 Editing, Proofreading & Reference Skills	3	0	0	3
SEC 4370 Records Management	2	2	0	3
*SEC 4429 Word Processing I	3	2	0	4
FIN 3314 Business Mathematics I	3	0	0	3
SPH 2300 Voice and Diction	3	0	0	3
				20

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*SEC 3406 Document Formatting II	3	2	0	4
*SEC 4448 Legal Shorthand	3	2	0	4
*SEC 4430 Word Processing II	3	2	0	4
*SEC 4305 Business Communications	3	0	0	3
LEX 3300 Case Analysis and Reasoning	3	0	0	3
				18

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
*SEC 4425 Machine Transcription	3	2	0	4
*SEC 4409 Legal Document Production	3	2	0	4
SPH 1300 Oral Communications	3	0	0	3
*SEC 3104 Electronic Calculators	0	2	0	1
*SEC 4517 General Office Procedures	5	0	0	5
*SEC 4201 Secretarial Cooperative Experience I	0	0	20	2
				19

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
MGT 4331 Administrative Office Management	3	0	0	3
ACC 1604 Principles of Accounting **or** ACC 3600 General Accounting	5	2	0	6
*SEC 4202 Secretarial Cooperative Experience II	0	0	20	2
†General Education Elective	2	0	0	2
LEX 3310 North Carolina Legal System	3	0	0	3
LEX 3300 Evidence	3	0	0	3
				19

Total Credit Hours 113

*Prerequisite or corequisite required; check course description.

†GENERAL EDUCATION ELECTIVES—
ENG, SPH, PSY, SOC, ECO, POL, GER, FRE, SPA, or HIS prefix.

Social Services Associate (T107)

Human Services Associate courses have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit. Contact the Social Services Program Director, 342-6659, for more information.

The Social Services Associate curriculum trains paraprofessionals for direct and indirect service delivery work in one of many social services areas. These social services areas include family and child assistance, rehabilitation, health services, medical assistance, youth services, mental health, and assistance to the aging, blind, and developmentally-disabled. Graduates will find employment with federal, state, county, and local government social services agencies and programs, and with private organizations that have social services assistance programs.

Clinical internships in a variety of community agencies enable students to gain specialized experience to parallel their classroom work.

The Associate in Applied Science Degree—Social Services will be awarded by the College upon completion of 108 credit hours as follows: 54 credit hours of Major Courses, 30 credit hours of Related Courses, and 24 hours of General Education Courses (includes an elective in Humanities or Fine Arts).

To pursue an Associate in Applied Science Degree in Social Services, students should first make application to the College. Placement tests, arranged at the time of application, are required for entry into the Social Services program. Students then will see the program counselor who will advise them before they see the program director. An interview with the program director is required for entry into the program. Students should complete the courses listed below and may obtain a suggested course sequence list from the program counselor or program director.

For more information or answers to questions, call the Program Director - 704/342-6659, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3501 Introduction to HSA	5	0	0	5
ENG 1504 English Composition I	5	0	0	5
PSY 2504 General Psychology	5	0	0	5
BIO 3301 Basic Health Science I	3	0	0	3
				18

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3502 Interpersonal Relationships I	5	0	0	5
*ENG 3405 Technical English II	4	0	0	4
SEC 3404 Keyboarding **or**	3	2	0	4
EDP 3310 Microcomputer Operations	3	0	0	(3)
BIO 3302 Basic Health Science	3	0	0	3
HED 1204 First Aid I	1	2	0	2
			(17)	or 18

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3340 Client Group Dynamics	3	0	0	3
*HSA 3341 Interpersonal Relationships II	3	0	0	3
HSA 4511 Introduction to Social Welfare	5	0	0	5
SOC 2514 Introduction to Sociology	5	0	0	5
				16

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3600 Community Organization and Casework Preparation **or**				
*HSA 4609 Caseload Management	3	0	9	(6)
HSA 4505 Helping Relationship: Theory	5	0	0	5
MED 3304 Medical Terminology I	3	0	0	3
SOC 2515 Social Problems	5	0	0	5
				19

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3604 Helping Relationship: Technique **or**	3	0	9	6
*HSA 4524 Helping Interview I	2	0	9	(5)
*PSY 2505 Human Development **or**				
SOC 1500 Sociology of the Family	5	0	0	5
HSA 3421 Helping and Behavioral Stress **or**	4	0	0	4
HSA 3202 Crisis Intervention **and**	2	0	0	(2)
HSA 4103 Stress Management	1	0	0	(1)
Elective in Humanities or Fine Arts	5	0	0	5
			(18)	or 20

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3414 Helping Relationships: Advanced Technique	3	0	3	4
*HSA 4508 Seminar	1	0	12	5
HED 2301 Human Sexuality in Helping Skills	3	0	0	3
*PSY 2514 Abnormal Psychology	5	0	0	5
				17

Total Credit Hours 108

*Prerequisite or corequisite required; check course description.

Surveying Technology* (T125)

This curriculum provides training for technicians in the many areas of surveying. Surveyers are involved in land surveying, route surveying, photogrammetry, mapping, and other areas of land description and measurements. Construction of buildings, bridges, dams, highways, airfields, and other engineered projects require one or more types of surveying.

Students will be trained as technicians to work with skilled professionals as instrument men, party chiefs, surveying aides, highway surveyors, mappers, and in many other surveying activities. Graduates of this program will be prepared to pursue the requirements necessary to become a registered land surveyor.

Upon completing this program, graduates may find employment in such positions as Surveying Technician, Mapper, Drafter, Surveying Party Chief, Construction Layout Technician, Deed Research Technician, Instrument Person, Land Surveying Technician, Deed Research Technician, Instrument Person, Land Surveying Technician, and Highway Surveying Technician.

The Associate in Applied Science Degree—Surveying Technology—will be awarded by the College upon completion of this program.

For more information, contact the Program Counselor - 704/342-6881, or the Surveying Technology Program Director - 704/342-6578, or the Technology Department - 704/342-6557, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
CIV	3101	Engr/Surveying Tech Seminar	1	0	1
CIV	3306	Construction Materials & Methods	2	3	3
ARC	3334	Architectural Drafting I - Basic	1	6	3
ARC	4200	Architectural Blueprint Reading and Specifications	1	3	2
ENG	1504	English Composition I	5	0	5
MAT	3507	Engineering Technology Math I	5	0	5
					19

SECOND QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ENG	3405	Technical English II	4	0	4
*MAT	3508	Engineering Technology Math II	5	0	5
*PHY	1404	Physics I - Basic Mechanics	3	2	4
*CIV	3407	Surveying I	2	6	4
					17

THIRD QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*MAT	3509	Engineering Technology Math III	5	0	5
*CIV	4407	Surveying II - Route Surveying	2	6	4
*PHY	1406	Physics III - Electricity & Magnetism	3	2	4
*CIV	4300	Codes and Contracts	2	3	3
EDP	3310	Microcomputer Operations	2	2	3
					19

FOURTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*CIV	3414	Statics and Strength of Materials - Basic	3	3	4
*CIV	4408	Surveying III - Boundary Surveying	2	6	4
*ARC	3314	Architectural Computer Drafting I	1	6	3
BUS	2304	Business Law I	3	0	3
Humanities/Fine Arts Elective			3	0	3
					17

FIFTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*CIV	4302	Plain Concrete & Asphalt	1	6	3
*CIV	4320	Principles of Hydraulics	2	3	3
*CIV	3317	Civil CAD: Site Planning	1	6	3
*CIV	4414	Surveying IV - Advanced Surveying	3	3	4
†Technical Elective					3
					16

SIXTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*CIV	4319	Soils Technology	2	3	3
*CIV	4305	Construction Estimates	2	3	3
*CIV	4315	Subdivision Planning & Design	2	3	3
*CIV	4415	Surveying V - Topo Mapping	3	3	4
LEX	4420	Real Property Law & Title Abstracting	3	2	4
					17

SEVENTH QUARTER

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*CIV	4307	Construction Project Management	2	3	3
*CIV	4314	Surveying VI - Construction & Site Surveying	2	3	3
SPH	1300	Oral Communications	3	0	3
†Technical Elective					3
Behavioral/Social Science Elective					3
					15

Total Credit Hours 120

†SUGGESTED TECHNICAL ELECTIVES:

CIV	3314	Structural Drafting I (CAD)
CIV	3315	Structural Detailing (CAD)
CIV	3415	Statics and Strength of Materials - Advanced
CIV	4284	Cooperative Work Experience I
CIV	4285	Cooperative Work Experience II
EDP	3405	Microcomputer Programming - Basic
MAT	4507	Engineering Technology Mathematics IV
PHY	1405	Physics II - Elastic and Thermal Properties of Matter

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**Pending State Approval*

Traffic and Transportation (T034)

The Traffic and Transportation curriculum provides an educational program in the techniques of state and federal laws and regulations applicable to traffic and transportation which will prepare students to enter such careers as dispatcher, claim clerk, rate clerk, operational clerk, dock supervisor, loading supervisor, and moving counselor. This curriculum enables students to develop knowledge and skills in the principles of organization and management in the traffic and transportation industry, the Interstate Commerce Act and other related traffic and transportation acts, the communication responsibilities of traffic and transportation, and the role and influence of traffic and transportation on the economy.

The Associate in Applied Science Degree—Traffic and Transportation will be awarded by the College upon completion of this program.

During the admissions process, students are encouraged to obtain a course sequence from the program counselor.

For more information or answers to questions, call the Program Director - 704/342-6646, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 1500 Introduction to Business	5	0	0	5
BUS 2304 Business Law I	3	0	0	3
TRN 3300 Introduction to Transportation	3	0	0	3
FIN 3314 Business Mathematics I	3	0	0	3
ENG 1504 English Composition I	5	0	0	5
				19

SECOND QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
TRN 3320 Motor Fleet Supervision I	3	0	0	3
TRN 3360 Transportation Pricing	3	0	0	3
FIN 3315 Business Mathematics II	3	0	0	3
ENG 3405 Technical English II	4	0	0	4
*Technical Elective	3	0	0	3
				16

THIRD QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
MGT 4330 Supervision	3	0	0	3
TRN 3321 Motor Fleet Supervision II	3	0	0	3
ACC 1604 Principles of Accounting I	5	2	0	6
BUS 3300 Human Relations I	3	0	0	3
*Technical Elective	3	0	0	3
TRN 4200 Cooperative Education I	0	0	2	2
				20

FOURTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
TRN 3350 Highway Transportation	3	0	0	3
TRN 3351 Traffic Management	3	0	0	3
EDP 3310 Micro Computer Operations	2	2	0	3
ECO 2344 Economics I	3	0	0	5
*Technical Elective	3	0	0	3
				15

FIFTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
TRN 4351 Freight Claims	3	0	0	3
BUS 3304 Business Statistics	3	0	0	3
EDP 3324 Advanced Microcomputer Operations	2	2	0	3
SPH 1301 Persuasive Speaking	3	0	0	3
ECO 2305 Economics II	3	0	0	3
*Technical Elective	3	0	0	3
				18

SIXTH QUARTER

	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
TRN 4356 Physical Distribution Management	3	0	0	3
INS 3340 Principles of Risk and Insurance	1	4	0	3
SPH 1300 Oral Communications	3	0	0	3
MGT 4332 Personnel Management	3	0	0	3
General Education Elective	5	0	0	5
*Technical Elective	3	0	0	3
				20

Total Credit Hours 108

*TECHNICAL ELECTIVES:

After consultation with a faculty advisor, students are to select 15 hours from the following:

BUS 2305	Business Law II
MKT 2314	Principles of Management
MKT 1304	Marketing I
MKT 3320	Fundamentals of Selling
MKT 4322	Purchasing
MKT 4325	Sales Management
SSH 3504	Occupational Safety and Health I
TRN 4358	Warehousing
TRN 4375	Import Transportation Management
TRN 4380	Export Transportation Management

Travel and Tourism Technology* (T182)

The Travel and Tourism Technology curriculum is designed to train travel planners who are capable of arranging all aspects of travel for clients. Arrangements vary from simple airline reservations and ticketing to complex individual tours including all arrangements: transportation, accommodations, and sightseeing. Modes of transportation used may be air, rail, steamship, motor coach, or rental car. Since this is a business-related field, the curriculum includes courses to provide a practical understanding of the day-to-day operation of a travel firm.

Areas of study include the travel and tourism industry, reservations and ticketing, marketing and sales, data processing, accounting and office management.

Graduates of this program will be primarily trained for employment by travel agencies. They may also be employed by rental car companies, airlines, tour operators, hotel/motel reservation systems, or by ship, train or bus companies.

The Associate in Applied Science Degree—Travel and Tourism Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6721, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLN /WK	HRS CR/ QTR
FIRST QUARTER					
SEC 3404	Typing I	3	2	0	4
ENG 1504	English Composition I	5	0	0	5
TAT 3300	Introduction to the Travel Industry	3	0	0	3
MAT 3504	Technical Mathematics	5	0	0	5
					17
SECOND QUARTER					
ENG 3405	Technical English II	4	0	0	4
FSO 3504	Food Preparation I	2	9	0	5
HRM 3300	Introduction to Hotel/ Restaurant Mgmnt.	3	0	0	3
TAT 3303	Tourist Attractions	3	0	0	3
					15
THIRD QUARTER					
ACC 1604	Principles of Accounting	5	2	0	6
TAT 3302	Surface Transportation	3	0	0	3
BUS 2304	Business Law I	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
					17
FOURTH QUARTER					
TAT 4304	World Destinations and Resorts I	3	0	0	3
HRM 3301	Financial & Legal Aspects of Innkeeping	3	0	0	3
SSH 3302	Hotel and Motel Security	3	0	0	3
TAT 4307	A History of Beverages	3	0	0	3
FRE 1300	Travel French	3	0	0	3
					15

		HRS CLS /WK	HRS LAB /WK	HRS CLN /WK	HRS CR/ QTR
FIFTH QUARTER					
TAT 4501	Hospitality Computer I	3	6	0	5
TAT 4305	World Destinations and Resorts II	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
BUS 3300	Human Relations	3	0	0	3
					14
SIXTH QUARTER					
TAT 4306	Group Tour Arranging/ Meeting Planning	3	0	0	3
TAT 4502	Hospitality Computer II	3	6	0	5
FSO 4414	Garde Manger I	2	6	0	4
ECO 3300	Introduction to Economics	3	0	0	3
					15
SEVENTH QUARTER					
TAT 4503	Hospitality Computer III	3	6	0	5
MKT 4321	Advertising	3	0	0	3
MKT 3320	Fundamentals of Selling	3	0	0	3
HED 1204	Standard First Aid	1	2	0	2
MUS 1314	Music Appreciation	3	0	0	3
					16
EIGHTH QUARTER					
TAT 4301	Tourism Marketing	3	0	0	3
MKT 4305	Advanced Selling Skills	3	0	0	3
MGT 2314	Principles of Management	3	0	0	3
TAT 3200	Travel and Tourism Etiquette	3	0	0	3
					12

Total Credit Hours 121

**Pending State Approval*

Welding (V050)

The Welding curriculum gives students sound understanding of the principles, methods, techniques, and skills essential for successful employment in the welding field and metals industry. Welders join metals by applying intense heat, and sometimes pressure, to form a permanent bond between intersecting metals.

Welding offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, heavy equipment, railroads, construction, pipefitting, production shops, job shops, and many others.

A Diploma in Welding is awarded by the College upon completion of this program.

For more information or answers to questions, call the Program Director - 704/342-6709, or the Industry Department - 704/342-6930, weekdays between 8 a.m. and 5 p.m.

The first step to enroll: Call the Welcome Center - 704/342-6719.

FIRST QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
WLD 5203	Blueprint Reading for Welders I	1	2	2
WLD 5401	Basic Calculations for Welders	4	0	4
WLD 5450	Gas Metal Arc Welding	2	6	4
WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
*WLD 5241	Flux Cored Arc Welding	1	3	2
MEC 5214	Practical Metallurgy I	1	3	2
				18

SECOND QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
WLD 5204	Blueprint Reading for Welders II	1	2	2
WLD 5421	Shielded Metal Arc Welding I	2	6	4
WLD 5431	Gas Tungsten Arc Welding I	2	6	4
HSA 5200	Human Relations	2	0	2
*MEC 5215	Practical Metallurgy II	1	3	2
PHY 5304	Applied Physics I	2	2	3
				17

THIRD QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*WLD 5340	Introductory Pipe Welding	1	3	2
WLD 5355	Commercial and Industrial Practices I	1	6	3
WLD 5422	Shielded Metal Arc Welding II	2	6	4
PHY 5305	Applied Physics II	2	2	3
ENG 5500	Communications Skills	5	0	5
				17

FOURTH QUARTER

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*WLD 5267	Certification Practice	0	6	2
*WLD 5268	Certification Testing	2	0	2
*WLD 5432	Gas Tungsten Arc Welding II	2	6	4
WLD 5356	Commercial and Industrial Practices II	1	6	3
WLD 5404	Pipe Welding	2	6	4
Relative Elective				2
				17

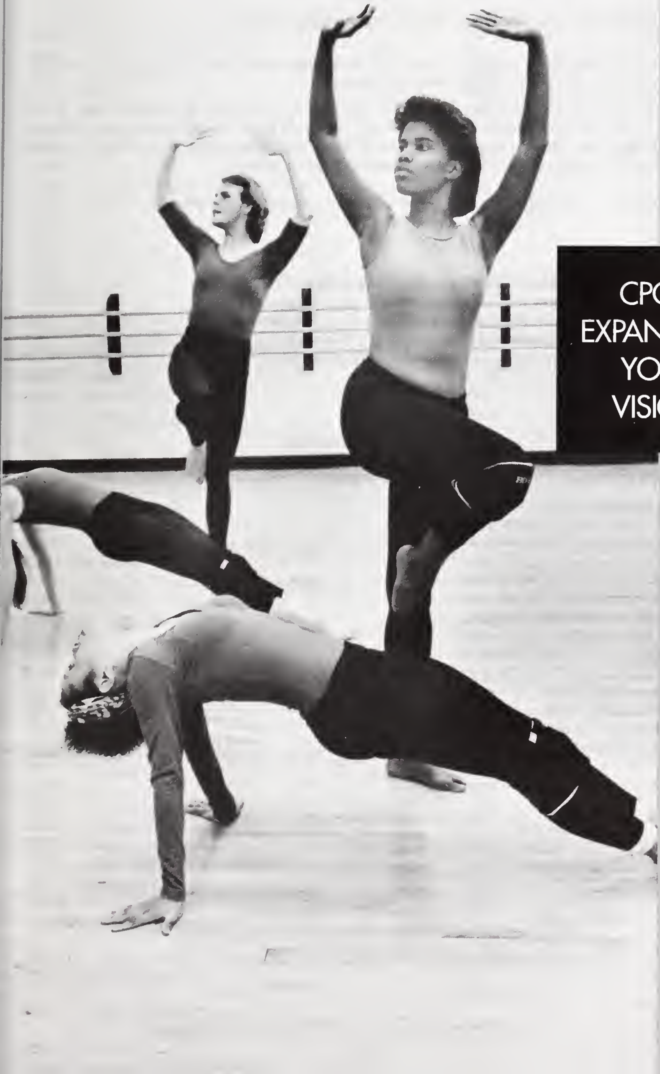
Total Credit Hours 69

*Prerequisite or corequisite required; check course description.

RELATED ELECTIVES

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5301	Basic Electricity	3	0	3
HED 1204	Standard First Aid	1	2	2
MAC 5201	Machine Shop Practices	1	3	2
*WLD 5205	Welding Qualification Test	0	6	2
*WLD 5260	Welding Co-Op	0	20	2

COURSE DESCRIPTIONS



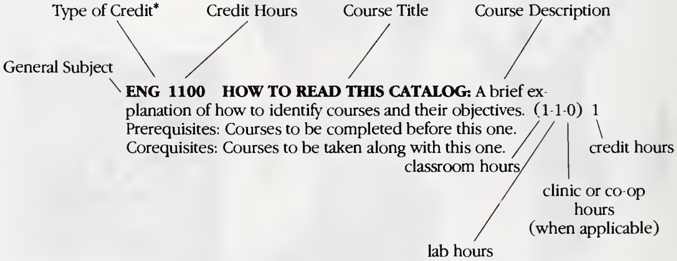
CPCC:
EXPANDING
YOUR
VISION

Course Descriptions

This section contains brief descriptions of courses that tell what students may expect to be able to do upon completion.

The 3-letter/4-number prefix identifies a particular course. The three letters are usually an abbreviation of the teaching department—such as DFT, which precedes all drafting courses.

The 4-number part of the prefix further identifies a particular course. The first number indicates the type of credit, as explained below.* The second number indicates the number of credit hours awarded upon completion of the course. (If a line "_" appears here, credits for independent study are to be arranged between the student and the instructor.) The third and fourth numbers of the prefix have no significance for students.



ENG 1100 HOW TO READ THIS CATALOG: A brief explanation of how to identify courses and their objectives. (1-1-0) 1
Prerequisites: Courses to be completed before this one.
Corequisites: Courses to be taken along with this one.

*Further Explanation of Type of Credit:

1 or 2	Associate in Arts, Associate in Fine Arts or Associate in Science degree courses (two-year programs which are transferable to four-year colleges).
3 or 4	Associate in Applied Science degree courses (two-year studies which prepare for job entry).
5	Diploma (one-year) or certificate (less than one-year courses which prepare for job entry).
6	Adult Basic Education, Adult Basic Literacy Education, Adult High School Diploma, General Educational Development.
7 or 8	Corporate/Continuing Education.
9	Developmental Studies in English, math, science, history, and chemistry.

Course Prefix—Index

ABE Adult Basic Education - 178
ABL Adult Basic Literacy - 178
ACC Accounting - 179
ADV Advertising - 202
AHR Air Conditioning, Heating, and Refrigeration - 181
ANT Anthropology - 184
ARC Architectural Technology - 184
ART Art - 187
AUB Automotive Body Repair - 191
AUT Automotive Technology - 192
BAF Banking and Finance - 195
BIO Biology - 197
BUS Business - 198
CEM Chemistry - 200
CHM Chemistry - 200
CIV Civil Engineering Technology - 223
COE Cooperative Education - 81
CSC Correctional Services - 210
DAN Dance - 212
DEA Dental Assisting - 214
DEN Dental Hygiene - 215
DSL Diesel Vehicle Maintenance - 218
DFT Drafting - 220
DRA Drama - 221
DRG Drug Administration - 217
ECO Economics - 222
EDN Interior Design - 272
EDP Computers (Electronic Data Processing) - 204
EDU Education - 223
ELC Electrical Installation and Maintenance - 233
ELN Engineering Technology - 225
ENG English - 234
ESL English as a Second Language - 237
FAS Fashion Merchandising - 239
FIN Finance - 239
FIP Fire Protection - 240
FRE French - 243
FSO Food Service - 242
GED General Educational Development - 178
GEL Geology - 244
GEN General Studies - 243
GEO Geography, Physical - 244
GER German - 245
GPY Geography, World - 244
HED Health Education - 247
HIS History - 248
HOR Horticulture - 249
HPE Health, Physical Education, and Recreation - 251
HRC Hospital Ward Secretary - 316
HRD Human Resources Development - 257
HRM Hotel/Restaurant Management - 256
HSA Human Services - 258
HSD High School Diploma, Adult - 178
HUM Humanities - 257
INS Insurance - 267
INT International Business - 273
ISC Manufacturing Engineering Technology - 230
ITA Italian - 274
LEP Learning Skills - 276
LEX Paralegal - 300
MAC Machinist - 276
MAT Mathematics - 282
MEC Mechanical Engineering Technology - 231
MED Medical Assisting - 287
MET Medical Transcription - 290
MGT Management/Business Administration - 278
MKT Marketing and Retailing - 280
MRT Medical Records Technology - 288
MUS Music - 291
NUP Nursing, Practical - 297
NUR Nursing, Associate Degree - 295
PHI Philosophy - 302
PHM Pharmacy Technology - 301
PHY Physics - 304
PME Small Engine Repair - 317
POL Political Science - 306
PRN Graphic Arts, Printing - 245
PSC Law Enforcement Technology - 274
PSM Postal Service Technology - 306
PSY Psychology - 307
PTH Physical Therapist Assistant - 302
PTL Peer Tutoring - 300
PTR Piano Tuning and Repair - 305
RDN Reading - 308
RES Real Estate - 308
RTH Respiratory Care Technology - 311
RUS Russian - 313
SEC Secretarial - 314
SOC Sociology - 316
SPA Spanish - 317
SPH Speech - 318
SSH Industrial Safety, Security, and Health Technology - 265
TAT Travel and Tourism Technology - 319
TRN Transportation - 318
WLD Welding - 320

Basic Education Through High School Diploma

Adult Basic Literacy Education

(See also courses with LEP prefix)

ABL 6003 Basic Reading Level I: Upon completion of this course, students should be able to identify names of the letters and sounds of the consonants; identify short vowel sounds; identify long vowel sounds; identify other vowel and consonant spellings; fill in application forms; use a dictionary; understand concepts of a paragraph; read a story and answer questions about the main idea and details; summarize, recall sequence of events, draw inferences and apply topics to everyday life.

ABL 6013 Basic Reading Level II: Upon completion of this course, students should be able to form and read new words by adding inflectional endings, prefixes and suffixes; select appropriate meanings of words; form sentences from phrases; identify the main idea, topic sentences, and details that support the main idea.

ABL 6004 Basic Math Level I: Upon completion of this course, students should be able to add and subtract one-digit to multi-digit numbers; multiply one- to three-digit numbers; divide one to three digit numbers; subtract from zero and multiply with zeros.

ABL 6014 Basic Math Level II: Upon completion of this course, students should be able to add, subtract, multiply and divide fractions, mixed numbers and decimals; find the percent of the number and determine what percent one number is of another; identify ratios and how to solve a proportion; compute with measures; add, subtract, multiply and divide positive and negative integers.

Adult Basic Education

(See also courses with LEP prefix)

ABE 6001 Adult Basic Education Level I: Upon completion of this course, students should be able to identify names of the letters and sounds of the consonants; identify short vowel sounds; identify long vowel sounds; identify other vowel and consonant spellings; fill in application forms; use a dictionary; understand concepts of a paragraph; read a story and answer questions about the main idea and details; summarize, recall sequence of events, draw inferences and apply topics to everyday life; add and subtract one-digit to multi-digit numbers; multiply one- to three-digit numbers; subtract from zero and multiply with zeros; divide one- to three- digit numbers.

ABE 6002 Adult Basic Education Level II: Upon completion of this course, students should be able to form and read new words by adding inflectional endings, prefixes, and suffixes; select appropriate meanings of words; form sentences from phrases; identify the main idea, topic sentences, and details that support the main idea; add, subtract, multiply, and divide fractions, mixed numbers and decimals; find the percent of the number and determine what percent one number is of another; identify ratios and how to solve a proportion; compute with measures; add, subtract, multiply, and divide positive and negative integers.

General Educational Development

GED 6001 An individual set of courses which prepare students to successfully pass the GED Tests in English grammar, literature, social studies, science, mathematics, and writing.

High School Diploma, Adult

HSD 6011 Adult High School Mathematics: Upon completion of this course, students should be able to do the following: apply the four fundamental operations of arithmetic and elementary principles of algebra and geometry to the solutions of problems involving percent, averages, simple and compound interest, discount and commission, English and metric measures of length, mass, and volume, time and distance, statistical graphs (bar, circle and line), ratio and proportion, scale drawings, scientific notation, perimeter, area and volume of common geometrical figures, square root, the Pythagorean Theorem, and simple linear equations. This course meets the mathematics requirement for obtaining a diploma from the Charlotte/Mecklenburg Schools through CPCC.

HSD 6021 Adult High School United States History and Government: Upon completion of this course, students should understand our federal system of government and how our Constitution works; be able to interpret the major events and identify the Presidents and their roles in American history from 1900 to the present; and have an increased appreciation for their role as participants in the American system of government. This course meets the history requirement for obtaining a diploma from the Charlotte/Mecklenburg Schools through CPCC.

HSD 6031 Adult High School Science and Biology: Upon completion of this course, students should be able to demonstrate knowledge and understanding of matter, energy forms—heat, light, sound, magnetism, electricity, nuclear energy, the action of forces, the microscope, cell structure, plant structures and functions, taxonomy, conservation and ecology, human body systems, nutrition, reproduction, genetics, evolution, and diseases of man. This course meets the science requirement for obtaining a diploma from the Charlotte/Mecklenburg Schools through CPCC.

HSD 6041 Adult High School English: Upon completion of this course, students should be able to do the following: recognize and define the parts of speech and the main parts of a sentence, recognize and correct grammatical errors, demonstrate reading comprehension skills, demonstrate a familiarity with Greek and Latin prefixes, suffixes and root words, spell and define words taken from a list of commonly used and frequently misspelled words, and write coherent sentences and paragraphs. This course meets the English requirement for obtaining a diploma from Charlotte-Mecklenburg Schools through Central Piedmont Community College.

Certificate/Diploma/ Degree Programs

Accounting

ACC 1604 Principles of Accounting I: In this study of basic accounting principles and procedures, students will complete the accounting cycle for both service and merchandising enterprises. They will also study specialized areas such as cash control, bank reconciliation, petty cash, voucher system, accounts receivable, notes receivable, and merchandise inventories. (5-2) 6

***ACC 1605 Principles of Accounting II:** In this continuing study of basic accounting, students will study accounting for plant assets, including depreciation and disposal, notes payable, payroll, corporate stock, dividends, retained earnings, corporate bonds, and marketable securities. Students will prepare corporate financial statements, including the statement of cash flows; compute and interpret financial ratios; and analyze cost data including the end-of-year closing, and schedule of cost of finished goods manufactured.
*Prerequisite: ACC 1604. (5-2) 6

***ACC 2626 Intermediate Accounting I:** In addition to reviewing the acounting cycle, students will study the following topics: development of accounting standards; theory underlying financial accounting; preparation of financial statements; accounting changes and correction of errors; accounting for cash and receivables; inventory costing and valuation; and financial statement analysis.
*Prerequisite: ACC 1605. (5-2) 6

***ACC 2627 Intermediate Accounting II:** In this continued study of intermediate accounting, students will study various topics including accounting for plant and intangible assets; present value concepts; long-term debt; short-term investments; stockholders' equity, and leases. Preparation of the statement of cash flows is also covered.
*Prerequisite: ACC 2626. (5-2) 6

***ACC 3434 Hotel/Restaurant Accounting:** Students will demonstrate their ability to apply generally accepted accounting principles to the hospitality industry. Problems will be solved in the following areas: uniform system of accounts for hotels; basic accounting controls; food, beverage and labor costs; specialized journals; financial statements; and budget planning. Students will solve hotel/restaurant problems using the LOTUS 1-2-3 program. No computer experience needed.
*Prerequisite: ACC 1604. (3-2) 4

ACC 3500 Small Business Accounting: Upon satisfactory completion of this course, students should be able to describe the different types of business enterprise; describe the basic accounting cycle; record business transactions; establish, control, and reconcile a bank account; calculate payrolls; complete required governmental reports, such as quarterly returns; describe inventory control and methods of inventory; identify license requirements and identify tax planning opportunities for the small business owner. (5-0) 5

ACC 3600 General Accounting: After completion of this course, students should be able to analyze, journalize, and post business transactions for service and merchandising organizations and to complete the end-of-period financial statements. In addition to the accounting cycle, students will study payrolls, bank reconciliations, petty cash funds, and the use of special journals. (5-2) 6

***ACC 4284 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as full-time employees.
*Prerequisite: Permission of Co-Op staff. (0-20) 2

***ACC 4285 Cooperative Work Experience II:** A continuation of ACC 4284, this course further refines the students' skills. Upon successful completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as full-time employees.
*Prerequisite: Permission of Co-Op staff. (0-20) 2

***ACC 4308 Interational Accounting:** Upon completion of this course, students should be able to describe accounting systems used in different countries; describe the impact different currencies and methods have on identifying, recording, and interpreting financial information; recognize the need for setting international accounting and auditing standards; describe practices used to account for differing rates of inflation and other price changes; give the reasons currency exchange rates vary and the methods of setting and selecting a transfer price.
*Prerequisites: ACC 1605, INT 3307. (3-0) 3

***ACC 4404 Auditing:** Students will study the theories and practices of auditing and also the generally accepted auditing standards and rules of professional conduct and legal liability. Students will solve numerous problems illustrating specific techniques of auditing various general ledger accounts. These problems will develop internal auditing concepts and procedures as well as the public accounting viewpoint. Current trends in financial statement preparation will be reviewed.
*Prequisite: ACC 2627. (3-2) 4

***ACC 4414 Microcomputer Accounting I:** Upon completion of this course, students will be able to use the microcomputer to record transactions in the general ledger system; maintain an up-to-date file of customer accounts receivable; maintain an up-to-date file on creditor accounts payable; maintain a simple payroll system and prepare depreciation schedules. In addition, they will be able to prepare financial statements and provide information reports for management use.
*Prerequisites: ACC 1605, EDP 3310. (2-4) 4

***ACC 4415 Microcomputer Accounting II:** Upon completion of this course, students should be able to use electronic spreadsheets to do an accountant's worksheet, prepare financial statements, compute depreciation schedules, maintain inventories of goods on hand, prepare payrolls and payroll records, use data base to compile and store data needed for end-of-year reports; comparative statements and financial statement analysis; and use graphics to display data related to financial analysis.
*Prerequisites: ACC 4414. (2-4) 4

***ACC 4425 Taxes—Business and Fiduciary:** In this study of federal and state income tax laws and regulations, students will demonstrate satisfactory competency in preparing business returns and fiduciary returns. Topics include income tax withholding, reporting business or professional income for individuals, partnerships, corporations and fiduciaries; researching and solving tax problems; applying federal and state laws for gifts and estates.
*Prerequisite: ACC 1605. (3-2) 4

ACC 4434 Taxes—Individual: Students will study current federal and state income tax laws and demonstrate their ability in finding, interpreting, and applying the relevant laws in the preparation of individual income tax returns of moderate complexity. These returns will involve supporting schedules and forms necessary for reporting income, deductions, and tax computations. Students will also demonstrate competency in solving problems in tax planning, minimizing taxes for the average taxpayer, and preparing declarations of estimated tax, extensions of time to file, and amended tax returns. (3-2) 4

***ACC 4444 Cost Accounting:** Upon completion of this course, students should be able to account for

production costs, including materials, labor, and overhead. Students will be able to apply job order and process costing principles using journal entries and T-account postings. Factory overhead will be applied using a variety of basis.
*Prerequisite: ACC 1605 (3-2) 4

***ACC 4447 Advanced Accounting:** Students will solve a wide variety of problems illustrating advanced application of accounting principles and procedures. Topics include personal financial statements, partnership accounting, branch accounting, accounting for mergers and consolidations, and parent-subsidiary consolidations. Emphasis is placed on problem-solving techniques applying related APB and FASB pronouncements.
*Prerequisite: ACC 2627. (3-2) 4

Administrative Office Technology

(See Secretarial)

Air Conditioning, Heating and Refrigeration Service Technician

NOTE: The program director may waive prerequisites/corequisites for those students with appropriate field experience.

***AHR 4304 Introduction to Psychrometrics:** Upon completion of this course, students should be able to describe the basic properties of air; describe the changes in volume and pressure with temperature; describe dew point temperature; describe humidity ratio, sensible heat, latent heat and their relationship with each other; determine sensible heat ratios, mixed air temperatures and enthalpy values; solve simple problems using the psychrometric chart.
*Prerequisite: Completion of first year AHR courses. (3-0) 3

***AHR 4325 Air Conditioning, Heating and Refrigeration Drawing and Sketching:** Upon completion of this course, students should be able to identify the typical symbols used on the drawings of air conditioning and refrigeration system plans; free-hand sketch simple plans showing equipment; produce orthographic projection drawings of simple equipment and fittings; draw a simple plan of a heating and air conditioning system; organize the required information needed for a complete plan of a heating and air conditioning design.
*Prerequisite: Completion of first year AHR courses. (1-4) 3

***AHR 4361 Residential Air Distribution and Balance:** Upon completion of this course, students should be able to demonstrate a comprehensive knowledge and understanding of air and its behavior in a duct or residential air distribution system; design each of the four basic duct systems used in residences; design a return system for residences; estimate blower capacity; estimate and measure friction loss; size an air distribution system for a residence correctly.
*Prerequisite: Completion of first year AHR courses. (2-2) 3

***AHR 4372 Hydronic Distribution Systems Design and Balance:** Upon completion of this course, students should be able to select boiler and other components for a complete system utilizing charts, tables, and catalog information; design commonly used hydronic systems and size pipe by accepted methods; determine water temperatures and quantities to meet calculated load conditions.
*Prerequisite: Completion of first year AHR courses. (3-0) 3

***AHR 4373 Hydronic Systems Balance:** Upon completion of this course, students should be able to use proper instruments to test, adjust and balance a system; analyze parallel and series application of pumps; analyze zone control methods and related equipment; use pump and system curves to analyze system performance; choose the best design for a specific application; measure water temperature at various terminal units to determine BTU output; construct a system curve based on measured water flow; use pump curves to estimate flow rate and head.
*Prerequisite: Completion of first year AHR courses; Corequisite: AHR 4372. (2-2) 3

***AHR 4451 Commercial Refrigeration System Design:** Upon completion of this course, students should be able to estimate the cooling load requirements for any common commercial refrigeration application; select proper equipment and controls to meet loan requirements; design and size a refrigeration piping system including piping accessories and controls.
*Prerequisite: Completion of first year AHR courses. (4-0) 4

***AHR 4452 Residential Air Conditioning Systems Design:** Upon completion of this course,

students should be able to estimate the heating and/or cooling needs of a residence; select the proper size of heating and/or cooling equipment required to meet the estimated needs; determine air quantities on a room by room basis; select room air outlets and returns; size duct work for simple systems.
*Prerequisite: Completion of first year AHR courses.
(3-2) 4

***AHR 4453 Commercial Air Conditioning Systems Design:** Upon completion of this course, students should be able to estimate the heating and/or cooling requirements of a commercial-type structure; choose the proper size of heating and/or cooling equipment to meet these requirements; determine air mixture conditions entering and leaving a cooling coil; use psychrometric chart to determine conditions of mixed air flow; determine sensible and latent heat loads of air quantities; determine quantities and mixture conditions based upon calculated loads.
*Prerequisite: Completion of first year AHR courses.
(3-2) 4

***AHR 4462 Commercial Air Distribution and Balance:** Upon completion of this course, students should be able to describe air and its behavior in a commercial air distribution system; describe the types and classes of fans and their applications; use fan charts to select fans and analyze air systems; discuss basic air distribution systems including duct sizing methods and proper selection of air outlets and returns.
*Prerequisite: Completion of first year AHR courses.
(3-2) 4

***AHR 4463 Control Systems:** Upon completion of this course, students should be able to interpret symbols on a control schematic diagram; draw a control schematic diagram; compare various control systems and select the one best suited for a specific application; prepare a control diagram for a refrigeration system; properly assemble the components for an operating control system; test and analyze control circuits; adjust various controls in a system.
*Prerequisite: Completion of first year AHR courses.
(3-2) 4

***AHR 4471 Installation and Service Problems:** Upon completion of this course, students should be able to use a variety of test instruments; estimate capacity requirements of various components and equipment; select proper location for various components; examine various systems and solve service problems using a variety of shop and field equipment; test and repair lab units; evaluate installation requirements; compare piping techniques; select system accessories.
*Prerequisite: Seventh quarter standing in Air Conditioning, Heating and Refrigeration Technology program.
(2-6) 4

***AHR 5204 Wiring Diagrams and Trouble-shooting for A/C Systems:** Upon completion of this course, students should be able to identify the more commonly used control components, their symbols, and describe their function in the control system; read wiring diagrams; trouble-shoot and replace controls in a control system.
*Prerequisite: AHR 5314. (1-3) 2

***AHR 5224 A/C, Heating and Refrigeration Blueprint Reading:** Upon completion of this course, students should be able to interpret a simple residential blueprint; use plans, schedules and tables; describe use of notes, lines, projections and dimensioning procedures.
*Prerequisite: AHR 5301. (1-2) 2

***AHR 5230 Basic Electronics for Air Conditioning, Heating, and Refrigeration:** Upon completion of this course, students should be able to identify and explain the operation of various electronic components; describe procedures used to test these components; explain how to use the oscilloscope to make basic measurements.
*Prerequisite AHR 5314. (2-0) 2

AHR 5301 Basic Electricity: Upon completion of this course, students should be able to discuss electrical terms; identify electrical symbols; apply Ohm's Law and Kirchoff's Law; draw wiring diagrams of series and parallel circuits; discuss the Wheatstone Bridge; describe magnetism as it applies to electricity; discuss the fundamentals of electrical current generation; describe the function of simple electrical controls as they are used in air conditioning and refrigeration systems. (3-0) 3

AHR 5312 Shop Practices: Upon completion of this course, students should be able to select the correct tubing for refrigerant use; bend tubing properly; flare and swage tubing; use various solders and techniques in making a series of soldered connections; construct a small piping system; use a gauge manifold; examine a tubing or piping system for leaks utilizing at least three leak detection methods. (2-3) 3

***AHR 5313 Refrigeration Service Principles:** Upon completion of this course, students should be able to use the gauge manifold properly; analyze several operating refrigeration systems and measure the degree of efficiency of each; inspect, remove and re-install various sub-assemblies of the system; examine all components and replace them; deter-

mine faulty system components; test entire system and place into operation.
*Co-requisites: AHR 5411, AHR 5312, AHR 5301.
(2-3) 3

***AHR 5314 Automatic Controls:** Upon completion of this course, students should be able to understand and use electrical measuring instruments; identify and describe the function and operation of basic control devices; install and wire these basic controls into a control circuit; select the proper type and size of wire for each application; read basic pictorial wiring diagrams.
*Prerequisite: AHR 5301. (2-3) 3

***AHR 5321 Commercial Refrigeration Installation:** Upon completion of this course, students should be able to describe various types and applications of commercial refrigeration installations; compare various defrost methods; select correct safety and operating controls for a given application; construct a refrigerant piping system; charge the system with proper amount of refrigerant and test for leaks; start up system.
*Prerequisites: AHR 5313, AHR 5301, AHR 5411, AHR 5312. (2-3) 3

***AHR 5322 Commercial Refrigeration Service:** Upon completion of this course, students should be able to compare various commercial refrigeration systems; use necessary tools and apply service techniques taught in this course; test for and repair refrigerant leaks; analyze a system malfunction; choose and install correct replacement component(s); test for proper operation of entire system; use specific equipment to dehydrate and evacuate system; install correct refrigerant charge; start system; evaluate system operation.
*Prerequisites: AHR 5301, AHR 5313, AHR 5312. (2-3) 3

***AHR 5323 Oil Burners:** Upon completion of this course, students should be able to differentiate between the various types of oil burners; test and evaluate high pressure type burners; assemble a high pressure oil burner; interpret an electrical diagram for an oil burner assembly; prepare the oil burner for testing; measure combustion efficiency.
*Prerequisites: AHR 5301, AHR 5312. (2-3) 3

***AHR 5333 Liquid Heat — One Pipe and Two Pipe Systems:** Upon completion of this course, students should be able to identify various types of heating units commonly used with one-pipe and two-pipe hydronic systems; sketch the basic systems commonly used in these systems; determine water quantities and temperature drops; select the essential accessories for hydronic systems; size pipes and select pumps; identify the kinds of boilers used; describe the basic requirements of the N.C. State Code as related to residential hydronic systems; size steam piping for one-pipe steam systems.
*Prerequisites: AHR 5401, AHR 5312. (2-3) 3

***AHR 5341 Gas Heat:** Upon completion of this course, students should be able to differentiate between the various types of gas furnaces; describe operating and safety controls; design a gas piping system properly; test vent and test gas piping for leaks and proper operation; dismantle entire furnace, evaluate its condition, repair or replace faulty components, and reassemble the unit; start up the completed installation; describe the safety codes; measure combustion efficiency.
*Prerequisites: AHR 5204, AHR 5314, AHR 5312. (2-3) 3

***AHR 5342 Electric Heat:** Upon completion of this course, students should be able to calculate the heat loss in wattage on a room to room basis for a structure; select the most appropriate type of system for a particular application; choose the correct controls for the system selected; design a simple system; assemble all components and install them; inspect and test systems and components for safe and proper operation; solve problems with system components; estimate approximate annual cost of operation; measure efficiency, voltage and wattage or current draw of a system.
*Prerequisite: AHR 5314. (2-3) 3

***AHR 5346 Air Conditioning and Heating Service Co-Op I:** Upon completion of this course, students should be able to produce and describe a master work log sheet containing the various types and number of job tasks completed in air conditioning or heating service company during this cooperative work experience and demonstrate acquired skills to show progress in making the transition from classroom and lab to an actual job in this service field.
*Prerequisites: AHR 5301, AHR 5312, AHR 5313, AHR 5411. (0-30) 3

***AHR 5347 Air Conditioning and Heating Service Co-Op II:** This course is a continuation of AHR 5346 Air Conditioning and Heating Service Co-Op I.
*Prerequisites: AHR 5224, AHR 5314, AHR 5431, AHR 5394, AHR 5444, AHR 5230, AHR 5204, AHR 5346.
(0-30) 3

***AHR 5348 Air Conditioning and Heating Service Co-Op III:** This course is a continuation of AHR 5347 Air Conditioning and Heating Service Co-Op II.
*Prerequisites: AHR 5323, AHR 5341, AHR 5342, AHR 5443, AHR 5347. (0-30) 3

***AHR 5349 Air Conditioning and Heating Service Co-Op IV:** This course is a continuation of AHR 5348 Air Conditioning and Heating Service Co-Op III.
*Prerequisites: AHR 4304, AHR 4452, AHR 4361, AHR 4325, AHR 4372, AHR 5348. (0-30) 3

***AHR 5394 Mechanical Codes:** Upon completion of this course, students should be able to demonstrate a comprehensive understanding of the North Carolina Building Code relating to air conditioning in residences and commercial buildings; compare the systematic methods of designing and sizing an air conditioning system; evaluate the systematic methods of designing, sizing, and installing the refrigerant piping and condensate drain(s).
*Prerequisites: AHR 5323, AHR 5333, AHR 5341, AHR 5342. (3-0) 3

AHR 5401 Basic Calculations for A/C, Heating and Refrigeration Technicians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems relating to the heating and air-conditioning field; calculate direct and indirect ratio and proportion; read a ruler accurately; manipulate fractional and decimal numbers; use simple equations to solve arithmetic formulas in the field; use a ductalator and Ohm's Law table; perform calculations for area and volume; understand scale measurement and angular measure; discuss measurement using the metric system as well as the English system. (4-0) 4

AHR 5411 Air Conditioning, Heating and Refrigeration Fundamentals: Upon completion of this course, students should be able to explain heat flow and how to measure it; demonstrate the use of various thermometers; explain the three states of matter; define density, specific gravity, power, energy, work, units of heat and other terms that apply to air conditioning, heating and refrigeration; describe the refrigeration cycle including the function of the condenser, compressor, expansion device and evaporator. (4-0) 4

***AHR 5431 Air Conditioning—Residential/Commercial:** Upon completion of this course, students should be able to discuss the terminology used in the field; diagram a complete refrigeration cycle, properly identifying all components; choose all necessary major components; differentiate between water and air-cooled equipment; design a simple residential air conditioning system; employ all safety measures; compare remote and self-contained systems; compare air moving equipment; describe various commercial air conditioning systems; inspect, test and analyze a commercial system; solve service problems on systems.
*Prerequisites: AHR 5322, AHR 5314, AHR 5313, or one year field experience in lieu of AHR 5313. (3-3) 4

***AHR 5443 All Weather Systems — Conventional:** Upon completion of this course, students should be able to describe the application of both heating and cooling in one system; compare the various combinations of oil-electric, gas-electric, all-electric, and other available combination systems; select the proper safety and operating controls for either type system; assemble all equipment and components and construct an all-weather system of the conventional type; inspect and test systems; solve service problems; revise improperly installed systems; measure and evaluate the overall performance of an all weather conventional type system.
*Prerequisites: AHR 5323, AHR 5341, AHR 5342. (3-3) 4

***AHR 5444 All Weather Systems — Heat Pumps:** Upon completion of this course, students should be able to draw a diagram of the refrigerant cycle; describe the heat pump concept; discuss the air to air and water to air heat pump; select all components necessary to construct a heat pump; make a diagram showing all necessary operating and safety controls; perform service procedures on lab equipment; discuss good design and installation practices.
*Prerequisites: AHR 5204, AHR 5313, AHR 5342, AHR 5312. (2-6) 4

Anthropology

ANT 1502 General Anthropology: Upon completion of this course, students should be able to evaluate the forms of evidence supporting various theories of human origins; describe the developmental stages of human anatomy and culture; and compare the cultural adaptations of societies around the world with special emphasis on preliterate societies. Topics include prehistoric archaeology, problems of human survival, and the future of humanity. (5-0) 5

Architectural Technology

ARC 3200 Introduction to Architecture: Upon completion of this course students should be able to identify the role of the architect and the technician in our society and architectural profession; discuss the development of buildings; list the ways in which architectural design has responded to changes in society which are reflected in the major building types; and evaluate the basic building types and their problems. (2-0) 2

ARC 3217 Architectural Computer Drafting IV: Upon completion of this course, students should be able to identify the components of the AUTOSHADE System; convert three-dimentional architectural line drawings into realistic pictures that show perspective, surface shading, and reflection. (1-3) 2

***ARC 3303 Interior Design Drafting I:** Upon successful completion of this course, students should be able to apply basic light construction terminology to drawings; draw residential and industrial plans and details; recognize standard building materials and their sizes; compare and select various types of windows and doors; use inking pens; discuss contents of residential and industrial building codes; and use reference material and graphic standards.
*Prerequisite: ARC 3334. (1-6) 3

***ARC 3304 Interior Design Drafting II:** Upon completion of this course, students should be able to layout standard building modular sizes; utilize information determined from residential and commercial building blueprints; interpret and write basic specifications; draw an electrical plan with a fixture schedule; identify various types of heating and cooling systems, and draw a plan using the mechanical equipment symbols; draw working plans and details for cabinet makers and mechanics.
*Prerequisite: ARC 3303. (1-6) 3

***ARC 3306 Residential Standards:** Upon completion of this course, students should be able to identify and apply basic design criteria for development of a residential design project; apply building code requirements; identify components of an HVAC system; develop a simple residential lighting and outlet plan; understand basic plumbing requirements for residential buildings.
*Prerequisite: ARC 3334 or equivalent. (1-6) 3

***ARC 3314 Architectural Computer Drafting (CAD) Autocad (I):** Upon completion of this course students should be able to identify the components of the AutoCAD System and define their use; demonstrate a working understanding of the basic commands of the system; draw architectural drawings; dimension; have a working understanding of layers and linetypes; and plot a drawing.
*Prerequisite: ARC 3314 or equivalent. (1-6) 3

***ARC 3315 Architectural Computer Drafting II:** Upon completion of this course, students should be able to identify the components of the CAD AEC-ARCHITECTURAL System; draw commercial floor plans, elevations, section details, storefront and schedules; incorporate manufacturer's CAD details into drawings; coordinate drawings and schedules.
*Prerequisite: ARC 3314. (1-6) 3

ARC 3319 Advanced Autocad System: Upon completion of this course, students should be able to configure AutoCAD, understand drawing file management, customize line types, customize hatching, assign attributes, extract attributes, modify screen menus, and input prewritten Lisp programs. (1-6) 3

ARC 3334 Architectural Drafting I — Basic & Residential: Upon completion of this course, students should be able to use drafting equipment; develop skills in lettering and drawing; use architectural and engineering scales; do freehand sketching; and draw basic residential plans, elevations, and details. (1-6) 3

***ARC 3335 Architectural Drafting II: Site Planning and Commercial:** Upon completion of this course, students should be able to become familiar with siting buildings from the standpoint of orientation, utilities, cut and fill, parking and drives; understand the effect of zoning and other code requirements; have an introductory understanding of commercial working drawings, including sheet sequence and basic commercial construction terminology; and prepare preliminary commercial drawings - floor plans, elevations, and building sections.
*Prerequisite: ARC 3334. (1-6) 3

***ARC 3336 Architectural Drafting III: Commercial A:** Upon completion of this course, students should be able to become familiar with fundamental exterior commercial construction, building materials, and site work; develop and draw plans, wall sections and details; and detail exterior systems and construction.
*Prerequisite: ARC 3335. (1-6) 3

ARC 4200 Architectural Blueprint Reading and Specifications: Upon completion of this course, students should be able to visualize building floor plans, elevations, sections and details in relation to the completed three-dimensional structure; recognize drawing conventions, standard materials and equipment symbols on architectural, structural, mechanical, and electrical plans; apply information obtained from residential working drawing floor plans, elevations, sections and details as well as heating, air conditioning, plumbing, and electrical plans; utilize information determined from commercial building blueprints pertaining to masonry, reinforced concrete, structural steel, and heavy timber construction; discuss contents of specifications and how they relate to drawing in the design and construction of buildings.

***ARC 4202 Architectural Specifications Development:** Upon completion of this course, students should be able to organize various parts of specifications in the proper sequence; understand the relationship of specifications to contracts, bidding, and drawings; demonstrate use of the C.S.I. format in writing specifications.
*Prerequisites: CIV 3306, ARC 4200 or instructor's permission. (1-3) 2

***ARC 4284 Cooperative Work Experience I:** Upon completion of the course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Architectural Technology industry; demonstrate results of applied experience to complement class and lab instruction.
*Prerequisite: 45 credit hours earned in residence toward engineering technology degree, and permission of program director. (0-0-20) 2

***ARC 4300 Architectural-Mechanical Equipment:** Upon completion of this course students should be able to identify the types of plumbing distribution and hot water supply system; size piping layout for a fresh water and a sanitary plumbing system; identify types of electrical wiring and service equipment; associate the types of heating and cooling systems for buildings; identify the fundamentals of lighting and associated equipment; and describe vertical transportation equipment such as elevators.
*Prerequisites: ARC 3335, ARC 4200. (2-3) 3

***ARC 4302 Architectural Model Construction:** Upon course completion, students should be able to use basic tools and equipment necessary to build models; build various types of contours and landscape models; construct simple study models for architectural engineering or interior design study; represent the basic building materials at various scales; construct either architectural, structural or interior models from blueprints.
*Prerequisite: ARC 3334 or ability to read blueprints. (1-6) 3

ARC 4310 Energy Efficient And Solar Home Design: Upon completion of this course, students should be able to identify the different systems of passive solar installation; understand the sun's effect on the earth; compute heat loss and gain; utilize the basic tools of passive design; become acquainted with actual passive applications; and gain a basic understanding of the performance of various building materials and insulation. (3-0) 3

***ARC 4337 Architectural Drafting IV: Commercial B:** Upon completion of this course, students should be able to develop stair and elevator drawings from floor plans; study interior finishes and materials; incorporate manufacturer's building equipment into drawings; and coordinate drawings and schedules.
*Prerequisite: ARC 3336. (1-6) 3

***ARC 4338 Architectural Drafting V - Mechanical, Electrical, And Plumbing:** Upon completion of this course, students should be able to draw mechanical duct layouts, draw lighting, electrical plans and schedules; draw plumbing plans, schedules, and riser diagrams; and identify and utilize appropriate symbols.
*Prerequisites: ARC 3336, ARC 4300, or instructor's permission. (1-6) 3

***ARC 4339 Architectural Drafting VI: Structural:** Upon completion of this course, students should be able to design and draw structural steel framing for a simple commercial or industrial building; design and shop detail the component parts of steel structures, including bolted and welded connections; analyze continuous beams; design composite construction floor systems with the use of the AISC Manual; and detail the component parts of reinforced concrete structure.
*Prerequisites: CIV 4427, ARC 3335; Corequisite: CIV 4434. (1-6) 3

***ARC 4340 Architectural Drafting VII: Working Drawing:** Upon completion of this course, students should be able to perform as a team member in the preparation of schematic design drawings to meet the building requirements of a hypothetical client; function as a member of the production team in the preparation and presentation of design development drawings; apply the fundamentals of ordinances and regulations pertaining to zoning, traffic and facilities for the physically handicapped; produce, as a member of the team, a set of architectural working drawings, consisting of site plan, floor plans, reflected ceiling plans, elevations, wall section and details; and apply office practice methods pertaining to project production.
*Prerequisites: ARC 4300, ARC 4337, ARC 4300. (1-6) 3

***ARC 4345 Architectural Presentation Drawing:** Upon completion of this course, students should be able to perform basic and advanced architec-

tural presentation techniques, including the use of shading, shadows, and the use of perspective charts; apply a variety of mediums - including pencil, ink, and color; draw vegetation, people, and transportation vehicles; and produce a complete architectural rendering.
*Prerequisite: ARC 3335 or equivalent. (1-6) 3

(Also see Civil Engineering Technology for other course descriptions.)

Art

†*Does not satisfy humanities requirement.*

†**ART 1200 Fiber Dyes:** Students successfully completing this course will demonstrate a basic understanding of direct and top-dyed processes utilizing natural and synthetic dyes, as well as an understanding of color theory as it applies to handweaving. (0-4) 2

ART 1300 Introduction to Art I: Upon completion of this course, students should be able to recognize and discuss the basic elements and principles of design as they apply to the visual arts. Through written or oral means they will demonstrate an understanding of appropriate terms and the skills required in the various art media, and a knowledge of how the visual arts affect daily life and commerce. (3-0) 3

ART 1301 Introduction to Art II: Upon completion of this course, students will demonstrate an ability to draw parallels between art of the past and present. They will demonstrate an understanding through written or oral means of broad social, political, psychological, and economic motivations for creating art. (3-0) 3

†**ART 1303 Printmaking II:** Upon completion of this course, students should be able to select woods, execute appropriate designs for woodcuts, handle woodcut tools properly, and produce editions of prints using various woodcut techniques. (0-6) 3

ART 1310 History of Art I: Students will survey major visual arts and the influence of the historical past on the concepts and form of contemporary creative endeavor - Prehistoric through Gothic. (3-0) 3

ART 1311 History of Art II: Students will survey major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor - the Renaissance, Baroque, and Rococo up to the 18th Century. Students will also survey the art of non-European countries such as India, China, Japan, Africa, and the South Pacific. (3-0) 3

ART 1312 History of Art III: Students will survey the major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor from the 18th Century Rococo and rise of Romanticism through the art of the 20th century. (3-0) 3

†**ART 1314 Woodworking I:** Students successfully completing this course will know the characteristics of a variety of woods and will be able to use power and hand tools properly in shaping, joining, and finishing wood. (0-6) 3

†***ART 1315 Woodworking II:** Students successfully completing this course will use and improve on the knowledge and skills learned in Woodworking I to produce finished woodworking projects. (0-6) 3

†***ART 1316 Woodworking III:** Students successfully completing this course will design and produce original projects in wood, while continuing to expand on the knowledge and skills learned in Woodworking I and II. (0-6) 3

†**ART 1321 Printmaking I:** Upon completion of this course, students will have a basic introductory understanding of the four basic print media, including serigraphy, relief, intaglio, and lithography. Projects will be completed in each of these areas. (0-6) 3

ART 1323 Basic Woodcarving: Students successfully completing this course will demonstrate a basic understanding of design concepts as they apply to woodcarving, as well as basic carving techniques, care of tools, and the history of carved wooden objects. (0-6) 3

ART 1327 Sculpture I: Students successfully completing this course will demonstrate a basic understanding of traditional and contemporary forms of sculpture. They will be able to utilize the elements and principles of design in producing original sculpture in a variety of media, and will understand the significance of materials and process. (0-6) 3

***ART 1328 Sculpture II:** Students successfully completing this course will have built on the visual and technical skills learned in Sculpture I to produce original solutions to sculptural problems in a variety of media including clay, wood, or stone.

***ART 1329 Sculpture III:** Students successfully completing this course have further developed the visual and technical skills learned in Sculpture I and II, and have begun to express individual ideas in metal, stone, clay, or wood. (0-6) 3

***ART 1332 Photographing Nature:** This course is designed for students wishing to become technically proficient at taking nature photographs with

a reasonable degree of reliability. Students will develop basic technical skills and knowledge of wildlife, close-up, and scenic photography. Using their own 35mm cameras, students will demonstrate their understanding of close-up techniques, blind construction, and lighting used in nature photography.
*Prerequisite: ART 1384 or departmental consent.

†**ART 1333 Stained Glass:** Upon completion of this course, students should be able to select the proper tools and materials of the stained glass medium; demonstrate working knowledge of the Tiffany method of stained glass construction; complete three projects using the above method. (0-6) 3

†**ART 1334 Painting I:** Upon completion of this course, students should be able to select tools and materials for painting; demonstrate a knowledge of the elements of art and the principles of design as these apply to the production of painting. (0-6) 3

†***ART 1335 Painting II:** Students will continue the analysis and production of good pictorial composition and will continue experimentation in painting techniques and media.
*Prerequisite: ART 1334 or department consent.
(0-6) 3

†***ART 1336 Painting III:** Students will give special attention to painting as a means of personal expression and will continue to identify and solve problems of pictorial production in color, form, and spatial illusion and will continue technical experimentation.
*Prerequisite: ART 1335 or department consent.
(0-6) 3

†**ART 1337 Portrait Painting I:** Upon successful completion of this course, students will be able to demonstrate an understanding of line, value, warm and cool tones, as well as an understanding of the rules of linear expression in "seeing" the shape and proportions of the subjects' head and shoulders.
(0-6) 3

†***ART 1338 Portrait Painting II:** Upon successful completion of this course, students will be able to demonstrate the use of correct flesh tones and the proper choice of backgrounds of the subjects' head and shoulders.
*Prerequisite: ART 1337 or departmental consent.
(0-6) 3

†***ART 1339 Portrait Painting III:** Upon successful completion of this course, students will be able to demonstrate three-quarter view (including hands) of the subject in full color.
*Prerequisite: ART 1338 or departmental consent.
(0-6) 3

ART 1344 Weaving I: Students successfully completing this course will demonstate a basic understanding of how to design and produce constructed textiles. They will know how to warp and dress the loom, and employ basic rug, basket, and tapestry techniques. (0-6) 3

***ART 1345 Weaving II:** Students successfully completing this course will be able to warp and dress the floor loom, and design and produce original clothing and/or manipulated fiber constructions. (0-6) 3

***ART 1346 Weaving III:** Students successfully completing this course will have designed and produced textiles using the double weave and other 4-harness floor loom pattern techniques. They will also have used forms of ikat and dyeing incorporated in their weaving projects. (0-6) 3

***ART 1347 Weaving IV:** Students successfully completing this course will demonstrate an understanding of bound, rya or overshot weave. They will have designed and produced one technique of fiber construction on the floor loom, and will also know the history and contemporary use of that technique.
(0-6) 3

†**ART 1348 Watercolor I:** Upon successful completion of this course, students will be able to produce watercolor paintings of landscapes and still-life subjects that utilize appropriate brush techniques and proper color mixing for this medium. (0-6) 3

†***ART 1349 Watercolor II:** Upon successful completion of this course, students will complete watercolor paintings that demonstrate a use of spatial depth and correct composition. Students will produce paintings that incorporate glaze techniques, mixed media including traditional and non-traditional media. Students will demonstrate an ability to use these techniques to create works that express their own personal expression.
*Prerequisite: ART 1348 or department consent.
(0-6) 3

ART 1360 Raku: Students successfully completing this course will demonstrate an understanding of the history, aesthetics, and techniques of the raku process. They will have utilized this knowledge to design and produce original and expressive raku art. (0-6) 3

ART 1364 Ceramics I: Students successfully completing this course will demonstrate a basic understanding of how the elements and principles of three-dimensional art function in relation to clay form.

Through designing and constructing expressvie clay objects, they will have learned various non-wheel fabricating techniques. (0-6) 3

***ART 1365 Ceramics II:** Students successfully completing this course will demonstate a basic understanding of traditional and contemporary forms of wheel thrown pottery. Building on visual and technical skills learned in Ceramics I, they will utilize design concepts well in producing original thrown forms.
*Prerequisite: ART 1364. (0-6) 3

***ART 1366 Ceramics III:** Students successfully completing this course will have further explored fabricating techniques and examined the relationship between form, materials, and surface. They will have developed a better understanding of contemporary ceramics, fired a gas kiln, and have begun to visually communicate original ideas in clay.
*Prerequisite: ART 1365. (0-6) 3

ART 1374 Jewelry I: Students successfully completing this course will demonstate a basic understanding of how to design and produce finished metal jewelry. They will know how to saw, file, forge, solder, cast, and finish a variety of metals, as well as know how to care for tools and equipment. (0-6) 3

***ART 1375 Jewelry II:** Students successfully completing this course will have further developed their individual design ideas using a variety of metals, and will know how to do cloisonné and casting with two metals.

†*ART 1376 Jewelry III: Students successfully completing this course will demonstrate a good understanding of how to design and produce original jewelry. They will have done plique-à-jour, hollow core casting, and will have begun to visually communicate original ideas through their work.
*Prerequisite: ART 1375. (0-6) 3

†ART 1384 Basic Camera Techniques: Students will develop skills using their own 35mm camera. Upon successful completion of this course, students should be able to determine proper exposure under a variety of light and subject conditions, including the use of flash. Instruction and practice will be provided in camera handling, films, filters, lenses, and composition. Students will take photographs using color slides, films, which they may have commercially processed, to demonstrate their understanding of specific camera techniques. (3-0) 3

†*ART 1385 Photo Lab Processes I: This is a course in basic black-and-white laboratory processes. Students will take photographs with their own 35mm cameras. They will demonstrate skills in the use of laboratory techniques to enhance the quality of the photograph, such as control of density and contrast, burning and dodging, as well as basic photofinishing.
*Prerequisite: ART 1384. (1-4) 3

†*ART 1386 Photo Lab Processes II: Students will develop a portfolio of black-and-white photographs using their own 35mm cameras and the 4″x5″ view camera (supplied by the instructor). Upon completion of this course, students should be able to set up and operate the view camera for shooting still-lifes and portraits in the studio, as well as for correcting vertical and horizontal distortion. They should be able to calculate lighting ratios and arrange lighting set-ups for taking still lifes and portraits. They will also gain experience in the use of several special photo mechanical processes, such as solarization and posterization.
*Prerequisite: ART 1385. (1-4) 3

†*ART 1389 Color Printing I: This is a beginning course in color printing. It is designed for students who have demonstrated an understanding of black and white laboratory processes. Students will shoot color negative film in their own camera and make prints from those negatives. Students completing this course will develop a portfolio of color photographs which they have shot and printed. Students will demonstrate an understanding of basic color theory as it relates to shooting color negative materials and to the color printing process.
*Prerequisite: ART 1385. (1-4) 3

†*ART 1390 Color Printing II: Upon completion of this course, students should be able to expose color transparency film properly and make color prints from that film. They will use the view camera supplied by the instructor to shoot and print large-format transparencies. They should also demonstrate an understanding of advanced techniques in lighting and the use of color correction filters when exposing color transparency film.
*Prerequisite: ART 1389. (1-4) 3

†*ART 1392 Advanced Camera Techniques: This is a continuation of Basic Camera Techniques (ART 1384). During this course, students will explore various aspects of photographic composition in an effort to develop their own visual awareness. Students will acquire skills in advanced camera handling techniques, such as multiple exposure, open flash, night photography, and specialized lighting. Various legal aspects of photography will be discussed in an effort to make the student aware of the photographer's legal rights and responsibilities.
*Prerequisite: ART 1384. (0-3) 3

†**ART 1404 General Drawing I:** This course introduces the students to many of the problems (and their possible solutions) in representing visual experience on the two-dimensional surface. Students will experiment with a variety of tools, materials, and techniques of drawing, and will learn to use these techniques and combinations of tools and materials as a means of personal expression and communication of experience. They will also be introduced to the basics of composition and perspective. (2-4) 4

†***ART 1405 General Drawing II:** Upon completion of this course, students will have been introduced to the study of perspective and other systematized methods of rendering the illusion of form and space. They should be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of materials and techniques in drawing.
*Prerequisite: ART 1404 or divisional consent. (2-4) 4

†***ART 1406 General Drawing III:** In this course, students will work toward the use of drawing as a means of personal expression and will concentrate on the development of direction and method in their work.
*Prerequisite: ART 1405 or department consent. (2-4) 4

†**ART 1407 Figure Drawing:** Upon successful completion of this course, students should be able to demonstrate the ability of utilize a variety of media and techniques in depicting the human form in both active and still poses, draped and undraped. They should be able to demonstrate through their projects, a knowledge of skeletal structure, an understanding of relative body proportions, and of foreshortening relating to the human form.
*Prerequisite: ART 1404 or departmental consent. (2-4) 4

†**ART 1424 Design I:** Upon completion of this course, students will be able to identify and use the principles and elements of design as these relate to two-dimensional surface. Flat pattern development, pictorial composition, depiction of spatial illusion, and value analysis will have been studied. (2-4) 4

†***ART 1425 Design II:** Students will examine and explore basic color theories. With this basis, individual color solutions, particularly as they might apply to practical communications problems, will be explored. The elements and principles of design will continue to be explored.
*Prerequisite: ART 1424 or department consent. (2-4) 4

†***ART 1426 Design III:** Students will continue the study of principles of design and will employ these principles for works in both two and three dimensions. Emphasis will be upon personal solutions to design problems.
*Prerequisite: ART 1425 or department consent. (2-4) 4

†***ART 1434 Airbrush:** Upon completion of this course, students will be able to use single and double-action airbrushes to render basic three-dimensional geometric forms and simple objects in a realistic style. They will be able to use stencils and to cut friskets for a variety of airbrush assignments, as well as do basic black-and-white photo retouching and restoration. They will also use various air supplies and know how to clean and care for airbrush equipment.
*Prerequisites: ART 1426, ART 1406, ADV 3401. (2-4) 4

†***ART 2300 Advanced Stained Glass:** Upon completion of this course, students should be able to show progress in glass cutting and pattern design; demonstrate a working knowledge of the lead came method of stained glass construction; complete three projects using the above method.
*Prerequisite: ART 1333 or department consent. (0-6) 3

†***ART 2304 Individual Studio:** A course designed to permit the individual student or group to work beyond the limits of the regular course offerings on self-determined objectives utilizing the resources of the Art Department.
*Prerequisite: Completed sequence of art courses in the area of proposed independent study. (0-6) 3

†**ART 2322 Surface Design for Textiles:** Introduction to major types of process for non-constructed textiles. Exploration of surface design and pattern. Techniques: stamping, stencil and resists, hand painting, batik, and silk-screening on fabric. (0-6) 3

†**ART 4201 Commercial Art Orientation:** Upon completion of this course, students should be familiar with the Advertising Design and Interior Design programs offered at CPCC; have met the Art Department faculty; be better able to use CPCC facilities such as the library, Drop-In Center, etc.; be able to make a better-informed choice of career goals and the program and courses which will serve them best. (2-0) 2

Automotive Body Repair

AUB 5201 Trim and Glass: Upon successful completion of this course, students should be able to disassemble, rebuild and reassemble automobile doors; remove and install windshields and back glass; aim headlights; remove and install seat covers and side trim. (1-3) 2

AUB 5202 Auto Renewal: Upon completion of this course, students should be able to clean and repaint engines; clean and dye seats and doors; clean and dye headliners and carpets; renew trunk and engine compartments; buff and polish exterior surfaces; clean and restore chrome; clean and dress vinyl tops and convertible tops. (1-3) 2

AUB 5203 Estimating Auto Body Damage: Upon completion of this course, students should be able to read a crash estimating guide; prepare a damage estimate; interpret an estimate; estimate straight time costs; identify unibody and conventional auto body parts; analyze damage repairs on actual vehicles. (2-0) 2

***AUB 5214 Door and Fender Alignment:** Upon completion of this course, students should be able to align the hood, fenders, doors, and deck lids of automobiles; replace the chassis sheet metal of a car as a unit.
*Corequisite: WLD 5210. (1-3) 2

***AUB 5215 Automotive Body Repair Co-op:** Upon completion of this course, students should be able to apply skills acquired in auto body repair courses to actual working situations in the auto body repair industry; produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of two quarters of Automotive Body Repair program courses. (0-20) 2

***AUB 5223 Fiberglass Fillers:** Upon completion of this course, students should be able to solder fill minor dents; fiberglass fill small cracks and openings; use powdered metal to fill rusted areas; finish minor body defects using hammer and dolly files, grinders, sanders and related tools.
*Corequisite: AUB 5421. (1-3) 2

***AUB 5224 Panel Installation:** Upon completion of this course, students should be able to: remove damaged sheet metal panels; use a power chisel; install partial panels, patch panels and full panels; use pop rivets; use a panel spotter and wire spot welder.
*Corequisite: AUB 5421. (1-3) 2

***AUB 5233 Lacquer Painting:** Upon completion of this course, students should be able to spray paint using various lacquers; sand and prepare a car for lacquer painting; buff and finish a car after lacquer painting; spot paint using lacquer paint; seal and paint lacquer over old surfaces.
*Corequisite: AUB 5431. (1-3) 2

***AUB 5234 Enamel Painting:** Upon completion of this course, students should be able to sand and prepare a car for enamel painting; spray paint using various enamel paints; paint a single panel using enamel paint.
*Corequisite: AUB 5431. (1-3) 2

***AUB 5235 Special Finishes:** Upon completion of this course, students should be able to spray paint a vinyl top; paint trunk compartments; paint plastic parts; pinstripe; use various custom paints; mask and stripe for special effects; use an air brush properly.
*Corequisites: AUB 5431, AUB 5233. (1-3) 2

***AUB 5344 Body Shop Applications I:** Upon completion of this course, students should be able to use all techniques covered in the previous Automotive Body Repair courses; make actual collision repairs using the same methods and practices as recommended by the automobile manufacturers and related industry.
*Prerequisite: All AUB prefix courses first three quarters. (0-9) 3

***AUB 5345 Body Shop Applications II:** A continuation of AUB 5344.
*Prerequisite or Corequisite: AUB 5344. (0-9) 3

***AUB 5346 Body Shop Applications III:** A continuation of AUB 5345.
*Prerequisite or Corequisite: AUB 5345. (0-9) 3

***AUB 5347 Body Shop Applications IV:** A continuation of AUB 5346.
*Prerequisite or Corequisite: AUB 5346. (0-9) 3

AUB 5412 Frame and Unitized Body Alignment: Upon completion of this course, students should be able to use frame gauges; use hydraulic tools for straightening auto body damage; align body openings; describe the types of major frame damage; tie down a car; use a frame machine to straighten frame damage. (2-6) 4

AUB 5421 Metal Finishing and Plastic Fillers: Upon completion of this course, students should be able to shrink sheet metal; use a hammer and dolly; rough out and fill dents; finish dents with plastic fillers; use a grinder, body file and long sander. (2-6) 4

AUB 5431 Paint Equipment and Preparation: Upon completion of this course, students should be able to disassemble, clean and reassemble a paint spray gun; maintain a spray paint system; select spray paint equipment; sand and mask a car in preparation for painting; use the basic techniques of spray painting; mix and spray undercoats, sealers and various kinds of paint systems; prepare various panels for topcoat applications. (2-6) 4

Automotive Mechanics

(See Automotive Technology)

Automotive Service Technician

(See Automotive Technology)

Automotive Technology

***AUT 4100 Port Type Fuel Injection (PFI):** Upon completion of this course, students should be able to describe the operation, diagnose problems, disassemble, repair as necessary and reassemble typical port fuel injection systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the program director. This course is part of AUT 4406. (0-2) 1

***AUT 4105 Computer Controlled Carburetion Systems:** Upon completion of this course, students should be able to describe the operation and diagnose problems in typical computer controlled carburetion systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the program director. This course is part of AUT 4406. (1-0) 1

***AUT 4200 Throttle Body Fuel Injection (EFI):** Upon completion of this course, students should be able to describe the operation and diagnose problems in typical throttle body-electronic fuel injection systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the program director. This course is part of AUT 4406. (2-0) 2

AUT 4300 Automotive Emissions Systems: Upon completion of this course, students should be able to describe the operation of emission control systems used on current production automobiles and light trucks; state, federal, N.C. State, and local laws relating to emission standards; troubleshoot, test and service emission control systems. (2-2) 3

***AUT 4308 Manual & Automatic Power Trains Applications:** Upon completion of this course, students should be able to describe the flat rate hour system; diagnose and make basic repairs in all automotive systems; discuss and solve service management and customer relations problems.
*Prerequisite: Seventh quarter standing in Automotive Technology. (1-6) 3

AUT 4311 Automotive Brake Systems: Upon completion of this course, students should be able to describe the operation and repair as necessary drum brakes, disc brakes, brake hydraulic systems, parking brakes, power brake boosters to include vacuum boost, hydra-boost, and electrically-powered boost systems. (2-2) 3

***AUT 4402 Auto Instrumentation and Chassis Electrical Systems:** Upon completion of this course, students should be able to describe the operation and circuitry involved in automotive instrumentation; describe the operation and related circuitry in chassis electrical components; troubleshoot and service automotive instruments and chassis electrical components.
*Prerequisites: AUT 5415, AUT 5416, or permission of program director. (3-2) 4

AUT 4407 Automotive Engine Electrical Systems I: Upon completion of this course, students should be able to describe the electrical theory of operation and construction, and disassemble, repair as necessary, reassemble, and test late model alternators, starters and distributors. (2-4) 4

***AUT 4408 Gasoline Combustion Engines II:** Upon completion of this course, students should be able to remove and replace engine assembly; perform head and valve train diagnosis and grind valves; perform the following in-frame engine tasks: remove and replace heads, remove and replace timing chains, belts, remove and replace rear main seals, remove and replace engine mounts.
*Prerequisite: AUT 4415. (2-4) 4

***AUT 4409 Automotive Engine Electrical Systems II:** Upon completion of this course, students should be able to describe electrical troubleshooting procedures; operate automotive engine electrical diagnostic equipment; perform diagnostic procedures on vehicles.
*Prerequisite: AUT 4407. (2-4) 4

AUT 4411 Auto Manual Power Train Systems: Upon completion of this course, students should be able to describe the operation and construction, disassemble, repair as necessary, and reassemble three-, four-, and five-speed manual transmissions, drivelines, and differential units. (2-4) 4

AUT 4412 Automotive Suspension and Steering Systems: Upon completion of this course, students should be able to disassemble, repair as necessary, and reassemble manual and power steering components, front and rear suspension units; check and adjust front and rear end alignment angles; balance wheels. (2-4) 4

AUT 4413 Automotive Automatic Transmissions: Upon completion of this course, students should be able to describe the principles of operation and fluid flow of an automatic transmission; disassemble, repair as necessary, and reassemble late model rear drive automatic transmissions. (2-4) 4

AUT 4414 Automotive Climate Control Systems: Upon completion of this course, students should be able to describe the operaton of automotive heating and air conditioning systems to include electrical and mechanical controls; service, and repair the systems and system components; describe safety precautions in handling refrigerants and working with pressurized heating and air conditioning systems. (2-4) 4

AUT 4415 Gasoline Combustion Engines I: Upon completion of this course, students should be able to describe the principles of operation of internal combustion engines; disassemble, measure parts, reassemble and run selected late model engines; adjust to manufacturer's specifications. (2-4) 4

***AUT 4416 Automotive Automatic Transaxles:** Upon completion of this course, students should be able to describe the operation and construction, disassemble, repair as necessary, reassemble, and diagnose problems in transaxles and automatic overdrive transmissions.
*Prerequisite: AUT 4413. (2-4) 4

AUT 4417 Automotive Fuel Delivery Systems: Upon completion of this course, students should be able to describe the method of operation and construction of carburetors, fuel pumps and intake systems, disassemble, repair as necessary, and reassemble late model carburetors. (2-4) 4

***AUT 4501 Automotive Electronics:** Upon completion of this course, students should be able to describe conventional current theory; solve series, parallel and series-parallel circuit problems; use analog and digital meters to wire and troubleshoot electronic circuits; describe semi-conductors and electrical sensors as they are used in automotive computer systems; read and interpret wiring diagrams.
*Prerequisites: AUT 5415, AUT 5416, or permission of program director. (4-2) 5

***AUT 4506 Computer Controlled Fuel Systems:** Upon completion of this course, students should be able to describe the operation of, diagnose problems in, disassemble, repair as necessary and reassemble typical fuel injection and computer controlled carburetion systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of program director. (4-2) 5

***AUT 5205 Fundamentals of Computer Controlled Fuel Systems:** Upon completion of this course, students should be able to discuss the operation of typical automotive onboard computers; describe automotive computer input and output devices; use diagnostic troubleshooting charts to describe trouble-shooting procedures in typical computer-controlled fuel systems.
*Prerequisite: AUT 5405 or program director's approval. (2-0) 2

***AUT 5212 Electrical Testing:** Upon completion of this course, students should be able to operate automotive diagnostic equipment; demonstrate use of shop manuals; demonstrate an understanding of automotive and truck wiring systems.
*Prerequisite: AUT 5415. (1-3) 2

***AUT 5295 Auto Mechanics Co-Op:** Upon completion of this course, students should be able to produce a master work log sheet containing the various types and number of job tasks completed in an automotive service business during this cooperative work experience; demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty.
*Prerequisite: fourth quarter standing in Automotive Technology program. (0-20) 2

***AUT 5307 Electrical Fuel and A/C Systems Applications:** Upon completion of this course, students should be able to perform tasks required in the service and repair of basic automotive electrical and fuel systems. Tasks will be performed on live vehicles using manufacturer's recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor.
*Prerequisites: AUT 5405, AUT 5415, AUT 5416. (1-6) 3

***AUT 5308 Brakes, Steering & Suspension Systems Applications:** Upon completion of this course, students should be able to perform tasks required in the service and repair of automotive suspension, steering, and braking systems. Tasks will be performed on live vehicles using manufacturer's recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor.
*Prerequisite: AUT 5404. (1-6) 3

AUT 5311 Brake Systems: Upon completion of this course, students should be able to describe the operation and repair as necessary drum brakes, disc brakes, brake hydraulic systems, parking brakes, power brake boosters to include vacuum boost, hydra-boost and electrically-powered boost. (2-3) 3

***AUT 5321 Auto Dealer Co-Op I:** Upon completion of this course, students should be able to produce and describe a master work log sheet containing the various types and number of job tasks completed in an automotive service agency during this cooperative work experience; demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty. The work experience emphasis will be in the area of major engine diagnosis and repair.
*Prerequisites: AUT 4415, AUT 4417, AUT 4407. (0-30) 3

***AUT 5322 Auto Dealer Co-Op II:** This course is a continuation of AUT 5321 Automotive Dealer Co-Op I, but the work experience emphasis will be in the area of electrical/electronic systems diagnosis and repair.
*Prerequisites: AUT 4409, AUT 4401, AUT 4301. (0-30) 3

***AUT 5323 Auto Dealer Co-Op III:** This course is a continuation of AUT 5322 Automotive Dealer Co-Op II, but the work experience emphasis will be in the area of brake, steering and suspension systems diagnosis and repair; computerized engine control systems diagnosis and repair.
*Prerequisites: AUT 4412, AUT 4406, AUT 4300, AUT 4311. (0-30) 3

***AUT 5324 Auto Dealer Co-Op IV:** This course is a continuation of AUT 5323 Automotive Dealer Co-Op III, but the work experience emphasis will be in the area of manual transaxle and automatic transmission diagnosis and repair; body electrical diagnosis and repair.
*Prerequisites: AUT 4413, AUT 4402. (0-30) 3

AUT 5401 Internal Combustion Engines I: Upon completion of this course, students should be able to describe engine components and operation; disassemble, measure parts for excessive wear, reassemble and run selected automobile engines; make necessary adjustments according to manufacturer's specifications. (2-6) 4

***AUT 5402 Internal Combustion Engines II:** Upon completion of this course, students should be able to perform the following in-chassis engine service: remove and replace the following parts on the engine; head gasket(s), front crankshaft seal, rear crankshaft seal; remove and replace timing chain, gear or belt; grind valves and reface seats on cylinder heads and make necessary adjustments according to manufacturer's specifications.
*Prerequisite: AUT 5401. (2-6) 4

AUT 5403 Basic Calculations for Auto and Diesel Technicians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the automotive field; use the functions of ratio and proportion to solve gear, crankshaft and pulley problems; read a scale, micrometer and feeler gauge accurately; use area and volume formulas; apply angular and geometric measurement to cylinder, chassis and flywheel problems; understand scale measurement; discuss measurement in terms of the metric system as well as the English system. (4-0) 4

AUT 5404 Steering and Suspension Systems: Upon completion of this course, students should be able to describe the operation of and repair as necessary the following components: manual and power steering, front and rear suspension units; check and adjust front and rear end alignment angles; balance wheels. (2-6) 4

AUT 5405 Basic Automotive Fuel Systems: Upon completion of this course, students should be able to disassemble, describe the operation, repair as necessary, and reassemble major manufacturers' carburetors; describe the operation and construction of carburetors, fuel pumps, intake and exhaust systems; perform typical carburetor adjustments on the car. (2-6) 4

AUT 5415 Electrical Systems I: Upon completion of this course, students should be able to disassemble, repair as necessary, reassemble and test automobile alternators, starters, distributors and electrical accessories; describe the operation and construction of the above automobile components. (2-6) 4

***AUT 5416 Electrical Systems II:** Upon completion of this course, students should be able to operate automotive electrical diagnostic equipment; perform the procedures used for a major automotive tune-up on typical vehicles.
*Prerequisite: AUT 5415. (2-6) 4

AUT 5425 Power Train Systems I: Upon completion of this course, students should be able to describe the operation, disassemble, repair as necessary, and reassemble the following components: clutches, manual transmissions (three, four, and five speed), drive lines, and differential units. (2-6) 4

AUT 5426 Power Train Systems II: Upon completion of this course, students should be able to describe the operation, diagnose problems, and repair the following typical automatic transmissions: General Motors THM 200, THM 350, Ford C-4, and Chrysler Torque-Flite. (2-6) 4

***AUT 5427 Power Train Systems III:** Upon completion of this course, students should be able to describe the mechanical power flow and trace the hydraulic oil flow in automatic overdrive and automatic transaxle transmissions; diagnose problems, disassemble, repair as necessary, and reassemble automatic overdrive and automatic transaxle transmissions.
*Prerequisite: AUT 5426. (2-6) 4

AUT 5433 Preventive Maintenance and Safety Inspection: Upon completion of this course, students should be able to describe and perform preventive maintenance requirements on automotive vehicles; use mileage maintenance schedules; describe and perform North Carolina Safety/Emission Inspections. (2-4) 4

AUT 5454 Automotive Heating and Air Conditioning: Upon completion of this course, students should be able to describe the operation of automotive heating and air conditioning systems, including electrical and mechanical controls; demonstrate competencies in the testing, service, and repair of the systems and system components; describe the safety precautions that must be taken when handling refrigerants and working with pressurized heating and air conditioning systems. (2-6) 4

Banking and Finance

BAF 3300 Commercial Lending: Upon completion of this course, students should be able to describe the lending function of a commercial bank; prepare financial reports using accepted formats; explain loan department functions and interaction with loan customers; apply the steps in the decision process as it involves structuring the loan; apply proper procedures in problem loans; manage the loan portfolio; explain the influence of regulations; describe the business development function. (3-0) 3

BAF 3301 Principles of Banking: This course will focus on the basic functions and operations of banking and a working knowledge of the operation of a bank. Upon completion of this course, students should be able to perform basic functions of commercial banking; demonstrate working knowledge of the operation of a commercial bank in the management of bank funds, bank control systems, and paying teller operations; identify and define the principles underlying the main objectives sought in banking operations. (3-0) 3

BAF 3302 Law and Banking Principles: This course is designed to equip students with a non-technical, clear understanding of all aspects of the legal system that directly affect banks. Upon completion of this course, students should be able to describe the court system and civil procedures; define consumer protection; describe and explain negotiable instruments and secured transactions. (3-0) 3

BAF 3303 Money and Banking: This course is designed to present basic economic principles as they relate to banking. Upon completion of this course, students should be able to explain the economy and how it works; describe the Federal Reserve System and the business of banking as related to these areas; define the monetary policy and its impact on financial markets and banks; discuss alternative theories of money's role in the economy; state fiscal policy; interpret trends in banking. (3-0) 3

BAF 3304 Fundamentals of Teller Operations: Upon completion of this course, students should be able to explain the functions of the banking industry; explain the role tellers play in banks; explain how bank products are bought and sold; explain the role of a teller in bank security; and exhibit an appreciation of non-technical skills such as communication and teamwork values. (3-0) 3

BAF 4303 International Banking: Upon completion of this course, students should be able to describe the basic framework and fundamentals of international banking; explain how money is transferred from one country to another; discuss the methods of financing international trade; list and describe the international agencies involved with international currency markets. (3-0) 3

BAF 4308 The New World of Commercial Banking: This course, an advanced introduction to the banking system, provides a topical look at the changing role of banks. Emphasis is conceptual rather than operational. Designed to familiarize students with the broader issues facing the banking industry, it includes changes necessitated by technological advances, recent legislation, and new approaches to global banking. Upon completion, students should be able to name the historical highlights of the banking industry; identify effective bank management—planning, structure and control; identify sources and uses of funds—changes and growth; define wholesale and retail banking; explain electronic funds transfer systems; define multinational banking; define specialized services—trust and cash management; identify regulatory constraints; discuss state issues and challenges for the future. (3-0) 3

BAF 4309 Consumer Lending: This course emphasizes pragmatic "how-tos" that detail the many types of credit arrangements in which a finance charge is paid for the privilege of repaying debts in delayed payments. Upon completion of this course, students should be able to identify collection policies and procedures; explain principles of credit evaluation; describe marketing bank services; define open-end credit; identify direct lending; explain the leasing of consumer goods; identify the legal aspects of installment credit; conduct financial statement analyses; identify rate structure and yield analysis; describe indirect lending; explain insurance for installment lending; use appropriate techniques in organizing and managing an installment loan department. (3-0) 3

BAF 4310 Bank Investments and Funds Management: This course presents the factors that affect investment strategies and decisions, grounded in a framework of fundamental investment concepts such as risk, liquidity, and yield. The basic characteristics of the major types of bank investments are studied, along with the relationship of investment management to other areas of banking and the national economy. Upon completion of this course, students should be able to identify and describe securities (U.S. Treasury, federal agency, state and local); define revenue bonds, money market investments, securities markets; explain investment objectives (short-term and long-term); identify tax factors in bank investment; explain primary and secondary reserves; and define investment accounts; maturity strategies. (3-0) 3

BAF 4311 Commercial Loan Officer Development: Upon completion of this course, students should be able to conduct loan interviews and identify problems; demonstrate ability in the subjective skills and judgment-forming abilities needed throughout the lending process; demonstrate decision-making under conditions of uncertainty and time pressures; apply listening and remembering skills. (3-0) 3

BAF 4312 Marketing for Bankers: This course provides a thorough grounding in basic marketing principles and theory and their practical application to the banking industry. Upon completion of this course, students should be able to conduct marketing in the organization; interpret consumer motivation and buying behavior and apply marketing information and research to this area of banking; identify and explain the marketing management process—situational analysis, formulation of a master marketing strategy, performance monitoring and evaluation; demonstrate knowledge of marketing as it relates to the wholesale side of banking; describe the significance of public relations and communications to the banking industry. (3-0) 3

BAF 4313 Law and Banking, Applications: Upon completion of this course, students should be able to describe the legal aspects of bank operations; identify and utilize various forms of commercial paper; apply procedures of check handling and payment mechanisms; conduct deposit and collection activities; describe payor bank and its customer drawer activities. (4-0) 4

BAF 4314 Real Estate Finance: Upon successful completion of the course, students should be able to identify sources of mortgage credit; demonstrate knowledge of federal assistance in the mortgage market; demonstrate knowledge of financing single-family homes, condominiums, industrial and agricultural properties and shopping centers; conduct analyses of mortgage credit and real estate investment; describe collection policies and procedures; identify and use forms and documents used to process mortgage loans; conduct research related to real estate financing. (Not acceptable for real estate broker prelicensing requirement.) (3-0) 3

BAF 4416 The Trust Business: This course provides an overview of the trust department. Upon completion of this course, students should be able to explain the role of the trust department in a commercial bank and how it fits into the overall banking business; identify the services provided and how they are delivered; describe the changing role of the trust department. (3-0) 3

BAF 4320 Deposit Operations: This course emphasizes the deposit operations of banks in the context of the U.S. payments systems. Emphasis is placed on systems rather than product or instrument. Upon completion of this course, students should be able to explain how banks operate relative to their deposit-taking activities and management of deposited funds; describe the impact of the external environment on determining why banks operate the way they do; demonstrate a knowledge of government rules and regulations; and discuss trends of America's payment mechanisms. (3-0) 3

BAF 4422 Trust Operations: Upon successful completion of this course, students should be able to use and understand basic trust terminology; discuss the concepts and ideas that comprise the various trust functions and translate them into workable procedures; identify the types of trust accounts and services; explain the management and operation of trust services; apply the fundamentals of trust accounting in performing cash transactions, asset/liability transactions; describe the internal accounting controls releveant to trusts; perform basic tasks relevant to trust account reporting. (4-0) 4

BAF 4424 Securities Processing: Upon successful completion of this course, students should be able to describe the securities-related activities open to banks; perform specific securities processing activities; administer consumer and corporate accounts, as well as the bank's own investment portfolio; and perform procedures involved in clearing and settlement system. (4-0) 4

Biology

BIO 1500 Biological Science: A foundation course designed to introduce selected fundamental biological principles. Upon completion of this course, students should be able to demonstrate an understanding of the following topics: the cell, reproduction, genetics, development, photosynthesis, respiration, ecology, and plant and animal diversity. (3-4) 5

BIO 1501 General Botany: An introductory study of green and non-green plants. Upon completion of this course, students should be able to demonstrate a knowledge of the following topics: plant cell structure and function, taxonomy, reproduction, genetics, mineral nutrition, and ecology. (3-4) 5

BIO 1502 General Zoology: An introductory study of the major groups of animals. Upon completion of this course, students should be able to demonstrate knowledge of animal anatomy, physiology, homology, ecology, life histories, classification and evolution. (3-4) 5

BIO 1503 Microbiology: An introduction to the world of microorganisms—bacteria, viruses, fungi, protozoa, and Rickettsia—with emphasis upon bacteria. Students, upon completion of this course, should have gained knowledge of the structure of microorganisms, interrelationships among them, factors influencing their growth, and how they affect humans. (3-4) 5

BIO 1504 Human Anatomy and Physiology I: An introductory course in the normal structure and function of human body systems, emphasizing interrelationships of each. Upon completion of this course, students should be able to demonstrate knowledge of the following: cellular biology, tissues, skeletal, muscular, nervous and sense organs. (3-4) 5

BIO 1505 Human Anatomy and Physiology II: A continuation of BIO 1504 with emphasis on the following: circulatory, respiratory, digestion, endocrine, reproduction, urinary, acid base and water-electrolyte balance. (3-4) 5

BIO 2300 Genetics: A study of the fundamental laws of heredity with emphasis on human heredity. Having completed this course, students should be able to demonstrate a working knowledge of the behavior of chromosomes and genes, mutation and chromosomal abnormalities and quantitative inheritance, evolution, population genetics, environment and heredity, and eugenics. (3-0) 3

BIO 2304 Human Nutrition: Upon completion of this course, students should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing relating to nursing. (3-0) 3

BIO 2308 Nutrition and the Young Child: Upon satisfactory completion of this course, students should be able to identify sources and functions of nutrients; describe an use standards for evaluating the nutritional adequacy of food intake; describe factors which influence food habits; outline food requirements of young children; plan menus as well as methods of food preparation appropriate for children; and write nutrition education activities for the child and for the parent of young children. (3-0) 3

BIO 2500 Introduction to Entomology: A basic course designed to give a practical approach to the study of insects. Upon completion of this course, students should be able to demonstrate a knowledge of the fundamentals of insect identification, development, food habits, and controls. (3-4) 5

BIO 2501 Ornithology: An introduction to the study of birds. Upon completion of this course, students should be able to demonstrate knowledge of anatomy, physiology, ecology, life histories, behavior, evolution, and identification of birds. (3-4) 5

BIO 2134-2534 Selected Topics in Biology: These courses are offered in order to comply with the needs of students who want subject matter not included in other courses offered by the Department. Upon completion of this course, students should have an understanding of such courses as: Animal Behavior, Marine Biology, General Ecology, Embryology, Histology, Exercise Physiology, Parasitology, Physiology, Crop Plants, Local Flora, Plant Anatomy, and Plant Morphology. TBA

BIO 2514 Vertebrate Zoology: An introductory study of the vertebrate animals. Upon satisfactory completion of this course, students should be able to demonstrate knowledge of vertebrate anatomy, physiology, embryology, systematics, homology, life histories, ecology, behavior, and evolution. (3-4) 5

BIO 3301 Basic Health Science I: An introductory course in the normal structure and function of the human body. Upon satisfactory completion of this course, students should be able to discuss the anatomy, physiology, and interrelationships of the following: cells-tissue, skeletal system, muscular system, circulatory system, respiratory system, and urinary system. (3-0) 3

BIO 3302 Basic Health Science II: A continuation of BIO 3301 with emphasis on the following: nervous system, sense organs, integumentary system, digestive system, endocrine system, reproductive system. (3-0) 3

BIO 3404 Cardio-Pulmonary Anatomy and Physiology: A specialized course to provide an in-depth study of cardiovascular and respiratory functions and their interrelationships. Upon completion of this course, students should be able to demonstrate an understanding of circulatory and respiratory anatomy and physiology. Emphasis is placed on the interpretation of blood-gas measurements. (3-2) 4

Biology Advancement Studies

BIO 9500 Introduction to Biology: An individualized instruction coure for students who need to update or review basic concepts in Biology. Upon completion, students should be able to demonstrate an understanding of six of the following units: Cell Structure and Function, DNA, Meiosis and Mitosis, Heredity, Biochemistry, Respiration and Photosynthesis, Microbiology, Human Anatomy, Classification, Embryology, Nutrition, Ecology. Highly recommended prerequisite or corequisite: EDU 9300.

Business

BUS 1500 Introduction to Business: Upon completion of this course, students should be able to describe the legal and economic environment of business; discuss the basic types of internal and external business forms; describe the functions of business; discuss the role of management in the business enterprise. (5-0) 5

BUS 2304 Business Law I: This course covers legal environment and common law contracts. Upon completion of this course, students should be able to explain the sources of American law and how laws are classified; outline the structure of the federal and state court systems; differentiate business torts and crimes; list the steps in the progress of a lawsuit; discuss the attorney-client relationship; list the elements of a common law contract and understand the artificial legal language involved; recognize rights of third parties to contracts; analyze when a contract has been breached; and understand methods of terminating rights under a contract. (3-0) 3

***BUS 2305 Business Law II:** This course covers the Uniform Commercial Code and other business laws. Upon completion of this course, students should be able to demonstrate a working knowledge of commercial paper and secured transactions; recognize and define a sale of goods; differentiate between common law contracts and those under Article II of the UCC; apply various common terms such as FOB, COD, sale or return, sale on approval to various situations and recognize which party has the risk of loss, as well as being able to apply the rules for performance of a sales contract; recognize and distinguish various types of warranties; discuss the various terms and forms applicable to secured transactions; distinguished negotiable instruments from ordinary contracts; recognize a holder in due course; demonstrate a general knowledge of bank-customer relations.

*Prerequisite: BUS 2304 or consent of division head. (3-0) 3

***BUS 2306 Business Law III:** Upon completion of this course, students should be able to distinguish agency from other relationships; list the different ways to create the agency relationship; define the various types of authority; list the various ways the agency relationship can be terminated; list the classifications of property and their main characteristics; enumerate the classifications of bailments; list and explain the rights and liability of partners; define the causes and grounds for dissolution of the partnership; distinguish a corporation from other forms of business organization; discuss dissolution, merger, consolidation and other corporate acquisitions; list the various rights of

stockholders; differentiate between a stockholder's role and a director's rol in corporate management; and study the Securities Act of 1933 and the Securities Exchange Act of 1934, and antitrust legislation.
*Prerequisite: BUS 2304 or consent of division head. (3-0) 3

BUS 3300 Human Relations: This course is primarily designed to allow students to learn and practice skills which enhance effective interactions in the work environment. Upon completion of this course, students should be able to define and trace the development of the human relations field; communicate effectively; explain and apply motivational techniques; understand and apply their own creative potential; recognize job stress and develop strategies for coping with stress; resolve various job conflicts; discuss ego states and life scripts; describe the behavioral implications of a personality profile. (3-0) 3

***BUS 3304 Business Statistics I:** Upon completion of this course, students should be able to differentiate between descriptive and inferential statistics; calculate measures of central tendency and variability; employ "z" tables; discuss probability theory and its uses; construct and use sampling distributions.
*Prerequisite: FIN 3315 or FIN 3330 or MAT 3504. (3-0) 3

***BUS 3305 Human Relations II:** Upon completion of this course, students should be able to explain the dynamics of working within groups; conduct a meeting effectively; counsel a subordinate about a problem and develop a plan for improvement; explain the various leadership styles and select the appropriate one for given situations; identify strategies for coping with problems in bureaucracies; summarize a variety of programs designed to improve quality of work life; describe strategies for overcoming resistance to change; and develop a career plan.
*Prerequisite: BUS 3300. (3-0) 3

***BUS 3308 Business Statistics II:** Upon completion of this course, students will be able to use statistical methods to solve business and industrial problems in the areas of manufacturing, marketing, and production. They will be able to use a personal computer and a calculator to reduce raw data to useable and understandable form in order to predict or make other important business decisions.
*Prerequisite: BUS 3304. (3-0) 3

BUS 4340 Consumer Credit: Upon completion of this course, students should be able to discuss the role of credit in the American economy; list the major characteristics of retail revolving, charge and installment credit; discuss the principles of consumer credit management; describe the process of credit investigation; discuss the role of various consumer credit institutions; apply knowledge to the development of a "case" consumer credit department. (3-0) 3

BUS 4341 Commercial Credit: Upon completion of this course, students should be able to differentiate between consumer and commercial credit; discuss business use of credit; define the role of the commercial credit manager; list and discuss the sources of credit information; differentiate between various credit institutions; analyze financial statements; develop a set of credit standards for a business; apply those standards to a "case" commercial credit department. (3-0) 3

***BUS 4394 Individual Study—Business Administration:** This course provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member.
*Prerequisite: Approval of the sponsor, division head and appropriate vice president is required. (3-0) 3

***BUS 4201 Business Administration Cooperative Education I:** Upon successful completion of this course, the student should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate interest and performance in the given occupational field and potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate the capacity to comply with such demands; analyze the job market in a chosen career prior to entrance into that career as a full-time employee. (2-0) 2

***BUS 4202 Business Administration Cooperative Education II:** Upon successful completion of this course, the student should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate interest and performance in the given occupational field and potential success and advancement in the occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate the capacity to comply with entrance into that career as a full-time employee.
*Prerequisite: BUS 4201. (2-0) 2

Business Administration

(See Management/Business Administration, also Business)

Bookkeeping/Clerical

(Check individual course listings)

Career Planning—Advancement Studies

GEN 9215 Career Planning: Through this course, students can learn the process for career/life planning which enables them to assemble and organize information about themselves and society in order to make career/life decisions. Upon completion of this course, students should be able to describe the changing nature of work and lifestyles in the United States; understand their individual responsibilities for creating a satisfactory work/lifestyle balance; demonstrate that anyone can make significant changes in the quality of life; use tools and techniques required to undertake career/lifestyle planning; and engage in the process of goal setting. (2-0) 2

Chemistry—Advancement Studies

***CEM 3300 Fire Protection Chemistry:** This course is designed specifically to meet the needs of Fire Protection Technology students in preparation for FIP 3404—Chemistry of Flammable Materials and FIP 4434—Chemical and Radiation Hazards. Topics of study include: matter, energy, atomic structure, chemical reactions, equations, solutions, water acids, bases, salts, and organic chemistry. Approximately one-third of the course will introduce organic structures, bonding, naming, classification, functional groups, and halogenated hydrocarbons. Text materials are on a college reading level.

*Prerequisites: grade of C or better in high school chemistry, CHM 9500 or EDU 9300. (3-0) 3

Chemistry

***CHM 1500 Introductory Chemistry:** An introductory course with laboratory experiences designed for students with little or no background in chemistry. Upon completion of this course, students should be able to demonstrate an understanding of some of the basic concepts of chemistry; measurements, significant figures, structure of the atom, mole problems, bonding, nomenclature, solutions, reactions, stoichiometry.

*Prerequisites: high school algebra or MAT 9510. (4-2) 5

***CHM 1501 Chemistry for the Health Professions I:** A general chemistry course and introduction to organic chemistry designed for students preparing for a career in nursing, or for liberal arts majors. Upon completion of this course, students should be able to demonstrate an understanding of basic chemical principles such as: structure of the atom, bonding, types of compounds, chemical reactions, stoichiometry, states of matter, solutions, gas laws, equilibrium, acids, bases, buffers, hydrocarbons, nomenclature.

*Prerequisites: high school chemistry or CHM 1500 and high school algebra, or MAT 9510. (4-2) 5

***CHM 1502 Chemistry for the Health Professions II:** A continuation of CHM 1501 in which properties and reactions of the functional groups in organic chemistry are studied; properties, structures and roles of the four classes of biochemical compounds. Upon completion of this course, students should be able to demonstrate an understanding of the chemistry of carbohydrates, lipids, proteins, nucleic acids, enzymes, metabolism, protein synthesis, and the significance of equilibrium in comprehending biochemistry.

*Prerequisite: CHM 1501. (4-2) 5

***CHM 1504 General Chemistry I:** A study of the fundamental principles and laws of chemistry with emphasis on the relationship of atomic structure to physical and chemical properties of the elements. Individualized lab experiments deal with the verification of chemical laws and the development of problem-solving skills. Applications of chemical principles will be made in the area of environmental problems such as energy and pollution. After completing this course, students should be able to apply the scientific method in problem solving; demonstrate the basic laboratory techniques for successfully and safely conducting chemical experiments; solve problems and demonstrate an understanding and appreciation of certain chemical laws, principles, concepts and theories such as metric system, atomic structure, laws of chemical combinations, stoichiometry, gas laws, kinetic molecular theory, theory of chemical bonding and simple nomenclature; relate the knowledge of chemistry to the real world, such as identifying specific societal problems created and/or solved by the science of chemistry. The following students should take the

CHM 1504, CHM 1505, CHM 1506 sequence: students with major emphasis in forestry, agriculture, dentistry, optometry, paramedics, medicine, pharmacy, nursing (B.S. degree), geography, textiles, chemical technology, geology, biology, and any other areas of science and math.
*Prerequisites: MAT 9510 or two years of high school algebra and/or the following: Corequisite: MAT 1504 or MAT 1514 or MAT 3504 or departmental consent.
(3-4) 5

***CHM 1505 General Chemistry II:** A continuation of CHM 1504, with emphasis on chemical equilibrium, kinetics, solution stoichiometry, acid-base theories, and electrochemistry. Some chemical application will be made in the areas of environmental problems, biological systems and industrial processes. After completing this course, students should be able to solve problems dealing with systems in equilibrium; solve solution problems; recognize and apply various acid-base theories to chemical equations; demonstrate an understanding of such things as redox potentials, reactions kinetics, colligative properties of solutions, and enthalpy changes.
*Prerequisite: CHM 1504 or departmental consent.
(3-4) 5

***CHM 1506 General Chemistry III:** A continuation of CHM 1505 with emphasis on ionic equilibrium and relating chemical properties to atomic and molecular structures. Includes introduction to organic chemistry: enthalpy and entropy changes are related to both ionic an molecular reactions. Both qualitative and quantitative analysis, with the use of some instrumentation, are included. Applications are made to biological systems and to environmental problems. After having completed this course, students should be able to demonstrate an understanding of ionic equilibrium by solving various problems dealing with pH, hydrolysis, Ksp, buffers, redox titration and acid base titrations. Students should be able to relate chemical and physical properties of common elements and ions to the periodic table and show well-developed lab techniques in experiments involving weighing, filtering and titrating.
*Prerequisite: CHM 1505 or departmental consent.
(3-4) 5

***CHM 2124-2524 Special Problems:** An advanced problem course of independent study in which a student and adviser select an appropriate topic for both laboratory and library research in the field of chemistry. After completing this course, students should be able to conduct a successful library and lab research project in chemistry, and present the results in proper written form.
*Prerequisite: CHM 1506 or departmental consent.
1 to 5 class hrs/week—1 to 5 hrs credit

***CHM 2414 Introductory Organic Chemistry:** An introductory organic chemistry course designed for students who may need a review of certain laws, principles and facts from general chemistry that are fundamental to organic chemistry. A brief review of atomic structure, bonding, and acid base theories is included. It is a survey course for both the science and the non-science student. Synthesis of selected compounds and their characterizations will be completed in lab with an introduction to sterochemistry. Chemical and physical properties of various compounds and common functional groups are related to their structure. Nomenclature and practical applications to related fields and to the real world are emphasized. Although this is designed as a preorganic chemistry course, other interested students should be successful in the course. Upon completion of this course, students should have enough basic knowledge of organic chemistry to be successful in a higher level organic course; to apply the learning to other fields of study such as biology; to relate the knowledge to the real world; and to complete basic organic lab experiments successfully using good technique.
*Prerequisite: CHM 1500 or CHM 1501 or CHM 1504.
(3-2) 4

***CHM 2604 Quantitative Chemical Analysis:** This course emphasizes a variety of analytical methods. Students successful in this course will be able to make accurate analyses using both volumetric and gravimetric methods. They will also perform well in the use of the calorimeter, potentiometer, infrared and atomic spectrophotometer.
*Prerequisite: CHM 1506 or departmental consent.
(3-6) 6

***CHM 2614 Organic Chemistry I:** A systematic study of the theories, principles and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Reaction mechanisms are emphasized. Some chemical applications are made to environmental problems and to industrial processes. Laboratory work includes purification, characterization and synthesis of organic compounds with emphasis on the improvement of scientific problem-solving skills. After completing this course, students should be able to name the common members of the families of organic compounds studied and describe their chemical and physical properties; demonstrate a working knowledge of organic synthesis of the compounds studied based on reaction mechanisms; perform common organic lab experiments in a safe manner using proper techniques; recognize and/or describe simple chemical tests for

certain functional groups. Students with major emphasis in science and engineering including: dentistry, optometry, medicine, paramedics, engineering (chemical, petroleum, sanitation, environmental), pharmacy, textiles, chemical technology, chemistry and biology should take the organic sequence.
*Prerequisite: CHM 1506 or departmental consent. (4-4) 6

***CHM 2615 Organic Chemistry II:** A continuation of CHM 2614 with a greater emphasis on instrumental analysis in the laboratory. Introduction to biochemistry is included. After completing this course, students should be able to identify some unknown organic compounds using NMR, UV, IR and mass spectra. They should be able to recognize the chemical properties of the common functional groups and should have well developed lab techniques as demonstrated in the identification and synthesis of certain organic compounds.
*Prerequisite: CHM 2614 or departmental consent. (4-4) 6

***CHM 2625 Chromatography:** A study of the theories, methods, and techniques of chromatography including gas, column, ion exchange, paper and thin layer. After completing this course, students should be able to separate, identify, and quantify the components of a mixture by the various methods and explain the results with the proper theory.
*Prerequisite: CHM 1506 or equivalent. (3-6) 6

***CHM 3501 Respiratory Therapy Chemistry:** A one-quarter course designed for students in the Respiratory Therapy Program. It is basically general chemistry with focus on biochemical applications. Upon completion of CHM 3501, students should be able to demonstrate a working knowledge of general chemistry, especially as it applies to respiratory therapy—topics include bonding, states of matter, solutions, gas laws, equilibrium, acids and bases, buffers and electrochemistry.
*Prerequisites: high school chemistry or CHM 1500 and high school algebra. (4-2) 5

***CHM 3502 Dental Hygiene Chemistry:** A one-quarter course designed for dental hygiene students. It consists of general chemistry, introductory organic and biochemistry. Upon completion of CHM 3502, students should be able to show a general understanding of the structure of the atom, bonding, influence of intermolecular forces on properties, acids and bases, equilibrium, buffers, hydrocarbons and groups in organic chemistry as well as some biochemistry with a special emphasis on carbohydrates.
*Prerequisites: high school chemistry or CHM 1500 and high school algebra, or MAT 9510. (4-2) 5

Chemistry—Advancement Studies

CHM 9500 Fundamentals of Chemistry: This course is designed to provide students with a basic foundation in chemistry as preparation for college curriculum courses. Matter, energy, formula writing and equation balancing, ionization, acids and bases, metric system and introductory biochemistry are the units available for study. College Transfer students, Health Program students, Fire Protection Technology and other technical program students will benefit from completing this course. Highly recommended Prerequisite or Corequisite: EDU 9300. (5-5) 5

Civil Engineering Technology

(See Engineering Technology)

Commercial Art/Advertising Design

ADV 1200 Desk Top Publishing: Upon completion of this course, students should be familiar with the nature of desk-top publishing and its use in business and education. They should be able to use a computer such as the Apple MacIntosh, IBM PC and/or others with associated software packages and peripheral equipment to produce simple printed visual communications of various types. (1-2) 2

***ADV 1300 Photography for Advertising:** This is a course in view camera techniques, specifically as they apply to commercial art and commercial photography. Students will learn to use the view camera to produce professional quality photographs under studio lighting conditions, primarily working with still-life and product subjects. In addition, students will develop advanced black and white lab skills, allowing them to produce a group of photographs suitable for portfolio presentation.
*Prerequisite: ART 1385. (1-4) 3

***ADV 3401 Illustration I:** Upon completion of this course, students should be able to identify ten types of illustrations in use today; execute preliminary comps for illustrations; make spot illustrations; execute illustrations with the use of mechanical drawing aids; and prepare full-color illustrations using a variety of media.
*Prerequisites: ART 1406, ART 1426. (2-4) 4

***ADV 3404 Illustration II:** Upon completion of this course, students will have structured experience in creating original illustrations for magazines, books, newspapers and other visual communications; will have worked creatively with a variety of art media such as acrylic paints, transparent watercolor and airbrush. They will have developed skills in drawing and painting the human form and will have guidance and experience equipping them to conduct a freelance illustration studio.
*Prerequisite: ADV 3401. (2-4) 4

***ADV 3414 Computer Assisted Design:** Upon completion of this course, students should be able to use microcomputers with associated hardware and software to create full-color graphics for a variety of visual communications.
*Prerequisites: ART 1406, ART 1426, or departmental consent. (2-4) 4

***ADV 4310 Fashion Illustration I:** Upon completion of this course, students will be able to illustrate the human figure in simple compositions that best enhance the garment; visually demonstrate the illusion of different types of fabric textures and garment detailing in these illustrations, using wet and dry media.
*Prerequisite: ART 1406. (2-2) 3

***ADV 4311 Fashion Illustration II:** Upon completion of this course, students will be able to illustrate complex compositions of human figures, showing clear textural and design detail for both clothing and fashion accessories, suitable for newspaper and magazine advertising in a variety of media; produce the layouts for these ads and demonstrate an understanding of print reproduction.
*Prerequisite: ADV 4310. (2-2) 3

ADV 4313 Cartooning and Caricaturing: In this course, students will analyze techniques in cartooning and caricature, drawing and interpreting given problems with emphasis on originality. (2-2) 3

***ADV 4390 Independent Study:** A course designed to permit the individual student or group to work beyond the limits of the regular course offerings in the commercial art area on self-determined objectives utilizing the resources of the Art Department.
*Prerequisite: Completed sequence of art courses in the area of proposed independent study. Students interested in pursuing areas in commercial art that are not part of regular course offerings should contact an instructor for suggestions and possibilities. (3-0) 3

***ADV 4414 Advertising Production I:** Upon completion of this course, students will be able to demonstrate an understanding of modern commercial printing processes; properly use a photo-static camera and process camera; process film negatives and positives; make high-quality mechanical art boards for one-color and multi-color line art; prepare color separation overlays; and prepare a one-color flat by correctly stripping a negative into a photo-mask.
*Prerequisites: ART 1406, ART 1426, ADV 4454. (2-4) 4

***ADV 4415 Advertising Production II:** Upon completion of this course, students will be able to identify and describe four types of halftones; identify and describe various types of contact screens used in halftone photography; use a densitometer or density guide to calculate exposure for halftone photography; make and process film and diffusion-transfer halftone; use a proportional calculator to determine enlargements and reductions of photographs and type; describe how computers are used today in typesetting and graphic-reproduction processes; correctly use a contact frame to make prints and negatives; make shrinks, spreads and outline letters with duplicating film; make white and colored acetate proofs on an exposure unit; make combination flats by correctly stripping line and halftone film negatives and positives; analyze film and paper halftones and determine halftone dot quality.
*Prerequisite: ADV 4414. (2-4) 4

***ADV 4416 Advertising Production III:** Upon completion of this course, students will be able to complete combination mechanicals involving line and halftone art, flat and process color, surprints and drop-outs; describe three and four-color printing process, direct and indirect methods for manually preparing four-color process negatives, how color scanners are used in four-color separation processes; prepare impositions for multiple-page publications; use an exposure unit and the matro-color proofing system to prepare color proofs; make calculations to use paper economically; describe various methods of folding, binding and finishing booklets and brochures; describe the relationship between printing, paper and ink.
*Prerequisite: ADV 4415. (2-4) 4

***ADV 4424 Advertising Studio I:** Upon completion of this course, students should be able to analyze and evaluate noteworthy advertising, both past and current; produce a variety of ads and graphic design projects which reflect research, creative thinking and good use of design and typography. They will also be able to demonstrate proficiency with various art media with special emphasis on concepting with markers.
*Prerequisites: ART 1406, ART 1426. (2-4) 4

***ADV 4425 Advertising Studio II:** Upon completion of this course, students should be able to produce layouts and dummy comprehensives for a var-

iety of complex advertising and graphic design problems. They will be able to design a corporate image system (logo) with special emphasis on paper selection, color, the use of special printing effects, and clients presentation.
*Prerequisite: ADV 4424. (2-4) 4

ADV 4426 Advertising Studio III: Upon completion of this course, students should be able to produce ad/graphic design layouts and comprehensives for a variety of clients to include an advertising campaign and a self-promotional package with special emphasis on marketing and media planning, verbal analysis and sales presentations.
*Prerequisite: ADV 4425. (2-4) 4

ADV 4427 Advertising Studio IV: Upon completion of this course, students will be able to demonstrate effectively all of the elements and guidelines explored in previous studio (such as concept, format, type, color) and apply these to a series of advertising/graphic design problems. They will also be able to demonstrate an understanding of printing and be able to produce artwork that demonstrates research, analysis, imagination and effective use of art materials and equipment from the stages of concept through the printed piece.
*Prerequisite: ADV 4426. (2-4) 4

ADV 4436 Advertising Thesis: Upon completion of this course, students should be able to identify their immediate and long-range vocational objectives; prepare a professional portfolio which will help to achieve these immediate objectives; and present the portfolio to prospective employers in a confident and professional manner.
*Prerequisite: ADV 4416, ADV 4426. (2-4) 4

ADV 4454 Typography and Lettering I: Upon completion of this course, students will be able to render letterforms from a free-style poster and calligraphic form to more finished and specific typestyles, using a variety of media; understand vocabulary and basic methods of typesetting. Spacing guidelines between characters and words will be explored, as well as the potential of design with letterforms.
*Prerequisite: ART 1404, ART 1424. (2-4) 4

ADV 4455 Typography and Lettering II: Upon completion of this course, students should be able to use type as a design and communications element. Formats involving consideration of headline and text type along with type specifying will be a main focus. Through practical problems, students will continue to identify and execute specific typestyles and examine and experiment with the visual impact and legibility of the printed word in advertising.
*Prerequisite: ADV 4454. (2-4) 4

Communications

(See English, Speech)

Computers

EDP 1404 Computer Concepts and FORTRAN Programming I: Upon completion of this course, students should be able to define selected terms pertaining to computer systems and programming; write programs in the FORTRAN language that read and write numeric/alphanumeric, perform arithmetic calculations, use control logic, generate reports with headings and totals, perform operations with one-dimensional arrays; prepare data for testing a FORTRAN program. (3-2) 4

EDP 1405 FORTRAN Programming II: A continuation of EDP 1404. Upon completion of this course, students should be able to write FORTRAN programs for problems solutions requiring two-dimensional arrays; functions and subroutines; input/output for tape and disk files; logical operations and output.
*Prerequisites: EDP 1404, and MAT 1504, MAT 1514 or MAT 3504, or departmental consent. (3-2) 4

EDP 1407 Computer Concepts and PASCAL Programming I: An introductory programming course that emphasizes a disciplined approach to programming in PASCAL. Upon completion of this course, students should be able to solve problems by developing algorithms; code PASCAL programs involving input, output, simple and compound decisions, real and integer arithmetic, character data, repeated and nested loops; execute and debug PASCAL programs. (3-2) 4

EDP 1408 Advanced PASCAL: Upon completion of this course, students should be able to understand and use one-dimensional arrays and associated operations; use packed arrays for character strings; declare and manipulate records; search and sort arrays; understand sets and set operations; use PASCAL functions.
*Prerequisite: EDP 1407 or departmental consent. (3-2) 4

EDP 1500 Computer Literacy: This course combines lecture, hands-on experience, and videotape material to present computer concepts for computer literacy. Upon completion of this course, students should be able to identify the basic steps in solving a data processing problem by tracing the flow of data through a computer system; list and define the functional units of a computer; identify the basic processes

in programming; list the job characteristics of computer personnel; describe devices and basic procedures in file handling for batch processing systems; identify different programming languages and their usual applications; relate problem definition and project analysis, system design, system development and implementation from the systems analysis point of view; identify the characteristics of on-line systems, such as I/O function, data transmission, file access and response time; identify the concepts of computers as related to multiprogramming and multi-processing; identify various computer usages; state some of the impacts of computer technology on individuals and the community; define selected terms relating to hardware and software for mainframe computers and microcomputers; operate a CRT for menu driven applications; and operate a microcomputer with selected software packages.
(5-0) 5

EDP 2306 Computer Programming I (Business): Upon completion of this course, students should be able to construct basic COBOL programs to solve sample business problems; verify the accuracy of program output; construct basic flow-charts; identify business problems which can be solved with a computer. (2-2) 3

***EDP 2307 Computer Programming II (Business):** A continuation of EDP 2306. Upon completion of this course, students should be able to develop program logic and write COBOL programs for solving sample business programs; incorporate programming techniques and procedures for magnetic tape and disk processing.
*Prerequisite: EDP 2306. (2-2) 3

***EDP 2525 Introduction to Business Computing** Through class lecture and hands-on activities in the microcomputer lab, the student should be able to understand the basic components of a computer system with an emphasis on PC hardware and software; use PC DOS to format a disk, manipulate files, and execute programs; solve typical business problems through the BASIC programming language and Lotus 1-2-3, or comparable spreadsheet software.
*Prerequisite: MAT 1504. (4-2) 5

***EDP 3215 Microcomputer Software—LOTUS 1-2-3:** Upon completion of this course, students should be able to identify the capabilities and applications for use of the LOTUS 1-2-3 software; use the commands and operational procedures to perform functions available in LOTUS 1-2-3; and apply the LOTUS 1-2-3 software to solve lab assignments representative of problems solvable using LOTUS 1-2-3. Hands-on experience is provided in this course.
*Prerequisite EDP 3310 or equivalent or departmental consent. (1-2) 2

***EDP 3217 Microcomputer Software—Data Base:** Upon completion of this course, students should be able to define selected terms and concepts used in data base design and application; load a data base software package on a microcomputer system; create and use existing data bases; add, delete and modify data on the data base; organize and arrange data on the data base according to specific processing requirements; and generate reports from the data base. To accomplish the objectives of this course a typical data base software such as dBASE III will be used.
*Prerequisite: EDP 3310 or equivalent or departmental consent. (1-2) 2

EDP 3300 Introduction to Computer Concepts: Upon completion of this course, students should be able to identify the basic steps in solving a data processing problem by tracing the flow of data through a computer system; list and define the functional units of a computer; identify the basic processes in programming; list the job characteristics of computer personnel; describe devices and basic procedures in file handling for batch processing systems; identify different programming languages and their usual applications; relate problem definition and project analysis, system design, system development and implementation from the systems analysis point of view; identify the characteristics of on-line systems, such as I/O function, data transmission, file access and response time; identify the concepts of computers as related to multiprogramming and multi-processing; identify various computer usages; state some of the impacts of computer technology on individuals and the community; define selected terms relating to hardware and software for mainframe computers and microcomputers.
(3-0) 3

EDP 3310 Microcomputer Operations: This course concentrates on the knowledge and skills needed to operate a microcomputer, not programming or maintenance. Upon completion of this course, students should be able to operate keyboard (no speed training), floppy disk and line printer; use operational commands; use sample software packages at an elementary level for wordprocessing, spreadsheets, and file management. Microcomputers will be used for practice exercise. (2-2) 3

***EDP 3324 Advanced Microcomputer Operations:** Upon completion of this course, students should be able to operate a microcomputer/PC for advanced spreadsheet application including graphics; advanced wordprocessing techniques including desk top publishing concepts; advanced data base pro-

cessing; a LAN environment; office automation of electronic mail and appointment scheduling; PC/host communication and application; and file management and backup procedures.
*Prerequisite: EDP 3310. (1-4) 3

***EDP 3335 Microcomputer Programming—MS/DOS:** Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; use DOS commands; write procedures in MS-DOS that sort, print, copy, use control logic and edit; prepare sample files to test a MS-DOS procedure, create executable batch files; write procedures in an interactive environment.
*Prerequisite: EDP 3310 or departmental consent. (2-2) 3

EDP 3405 Microcomputer Programming—BASIC: Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; write programs in the BASIC language that read/write/calculate, use control logic, generate reports with headings and summary totals, perform operations with arrays; prepare sample data to test a BASIC program, define and explain the purpose of a menu; write programs in an interactive environment under control of an editor. (3-2) 4

***EDP 3406 Microcomputer Programming—Advanced BASIC:** Upon completion of this course, students should be able to write programs to create/access/update data files on disk; use one- and two-dimensional array processing; use selected functions available in BASIC and write user defined functions and subroutines; use string functions; write programs for reports using designated print formats with headers, edited output and summary totals for screen and printer output.
*Prerequisite: EDP 3405. (3-2) 4

***EDP 3407 Programming Business Applications for Microcomputers:** Upon completion of this course, students should be able to prepare input, output, and file formats; design and write programs in BASIC for selected accounting/business applications; code and/or explain techniques or routines used in computerizing a business application, such as data editing, sorting, merging, multileveled control breaks, calculation of days between dates, and file processing; prepare and interpret documentation for selected accounting/business applications.
*Prerequisites: EDP 3405, EDP 3406. (3-2) 4

***EDP 3410 C Language:** Upon completion of this course, the student should be able to define selected terms pertaining to microcomputer systems and programming; write programs in C language that read/write/calculate, use structured logic, use library functions for specific tasks, generate reports, perform operations with arrays; create, edit, store, link and execute programs and program modules in C language; write user defined functions; prepare sample data to test a C program; prepare programs for execution using a C compiler.
*Prerequisite: EDP 1407 or equivalent or departmental consent. (3-2) 4

***EDP 3411 Advanced C Language Programming** Through class lecture and hands-on activities in the microcomputer lab, the student will learn to use pointers on a more advanced level, manipulate data on a bit level, use preprocessor directives more extensively, utilize enumerated data types, and implement advanced I/O operations including text and binary data files.
*Prerequisite: EDP 3410. (3-2) 4

***EDP 3440 Assembly Language:** Upon completion of this course, students should be able to perform arithmetic operations in the hexadecimal and binary numbering systems; code selected assembly language statements; interrupt machine language instructions and read hexadecimal dumps; write assembly language programs using techniques ranging from reading of records through address modification, loops, editing, and sorting of 1-level tables; use macro instructions and subprograms.
*Prerequisite: EDP 3515 or departmental consent. (3-2) 4

EDP 3514 Programming Logic and COBOL I: Upon completion of this course, students should be able to analyze given problem definitions and develop solutions from a programming viewpoint at a fundamental level with the use of hierarchy charts and I/O specifications; write and execute structured COBOL programs for business problems involving data input, basic calculations, code checking, decision making, iterations, reports, headings, and summary totals; prepare test data and verify results of executing a COBOL program; correct syntax and logical errors in a COBOL program. (3-4) 5

***EDP 3515 Programming Logic and COBOL II:** Upon completion of this course, students should be able to outline the logic through use of hierarchy charts, I/O specifications, and flowcharts to process multiple level control breaks, group indicated and group printed reports, advanced arithmetic calculations, advanced decision making techniques, disk/tape

I/O, create/update sequential files on tape/disk, iteractive processing, variable length records, subprograms, write structured COBOL programs that will handle these same features; code, test and debug sample problems with these features; correct syntax and logic errors with the help of standard manuals.
*Prerequisite: EDP 3514. (3-4) 5

***EDP 3516 Programming Logic and COBOL III:** Upon completion of this course, students should be able to outline the logic through use of hierarchy charts, I/O specifications, and flowcharts to handle single and multi-dimensional tables, sorting of data, merging files, files containing multiple record formats, nonsequential files (create/update), reports using the REPORT WRITER feature, maintenance and modification of existing programs; write structured COBOL programs that will handle these same problems; correct syntax and logic errors with the help of standard manuals.
*Prerequisite: EDP 3515. (3-4) 5

***EDP 4284 Cooperative Work Experience I:** Upon successful completion of this course, student should be able to demonstrate resulting applied experience to complement class and lab instructional Business Computer Programming. (0-20) 2

***EDP 4285 Cooperative Work Experience II:** A continuation of EDP 4284 which further refines the student's skills learned and practiced in Cooperative Work Experience I.
*Prerequisite: EDP 4284. (0-20) 2

***EDP 4314 Systems and Procedures:** Upon completion of this course, students should be able to summarize the state of the art in information systems design; prepare a business form; prepare and explain a project plan and feasibility report; prepare a data flow diagram for a system; prepare a record layout for an input and output file; relate the system process to a typical application using a case problem.
*Prerequisite: ACC 1604 or BUS 1400; and EDP 3300 or EDP 1500; or departmental consent. (3-0) 3

***EDP 4390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member.
*Prerequisite: Approval of the sponsor and department head. (3-0) 3

***EDP 4425 Computer Systems I:** This course uses one of the systems available for CPCC students—MVS/JES, an OS type system. Upon completion of this course, students should be able to use utility manuals to code the JCL and control statements for certain utilities; code DD statements for sequential files; code JCL for compilation and execution of COBOL and WATBOL programs; create PDS, store and execute load modules; list physical and storage characteristics of disk and tape; calculate storage requirements for a file on disk or tape; trace the job flow from input to output identifying software programs involved for a multiprogramming computer system for compilation and execution of programs; diagram the program and data flow in a multiprogramming computer including channels and interrupts; define an operating system and discuss IPL, SYSGEN and other selected terms; code parameters of a Job and Execute card; use catalogued files.
*Prerequisite: EDP 3514 or departmental consent.
(3-2) 4

***EDP 4435 Computer Systems II:** This course uses both the operating systems available to CPCC students—MVS/JES, an OS type operating system, and DOS/VSE, a DOS type operating system. Upon completion of this course, students should be able to store, modify and use source modules on PDS in COBOL and WATBOL; code DD statements for index sequential, VSAM, random files and define processing procedures and modes; create and store procedures in a procedure library; establish and use generation group files; use utility manuals for execution of selected utilities; state purpose of and list some typical access method programs; use message code listings to determine errors occurring in running sample labs; code the control language for a DOS operating system.
*Prerequisite: EDP 4425 or departmental consent.
(3-2) 4

EDP 4444 RPG Programming: Upon completion of this course, students should be able to code, test, and debug RPG/400 programs using calculations, single and multiple control levels, structured operation codes including IF, IF/ELSE, and DO structures, EXCPT command, internal subroutines, and array and table processing. (3-2) 4

***EDP 4445 Advanced RPG Programming:** Upon completion of this course, students should be able to define/create physical and logical files on AS/400 using DDS and DFU; design/define/test display formats for inquiry, data entry, and updating; use full procedural file operation codes. Code, test and debug RPG/400 programs which incorporate these concepts.
*Prerequisite: EDP 4444 or departmental consent.
(3-2) 4

***EDP 4515 Applied Business Systems and Data Bases:** Upon completion of this course, students should be able to estimate hardware, software and personnel requirements for a specific business application; relate the various business statements (e.g., balance sheet, income, cost of goods sold) to the business data base; analyze business problems, suggesting computer related solutions and preparing a feasibility study (factors to include systems analysis, programming and personnel requirements); relate the data base of a business to the three principal areas of Computer Information Systems (CIS) [Data Processing (DP), Management Information Systems (MIS), and Decision Support Systems]; define the three principal data base structures (Hierarchical, Network, and Relational) and discuss their evolution; define the common database terminology; compare and contrast common data bases and data base languages; utilize one or more common data bases on a microcomputer system; relate the Computer Information Systems approach and data bases to the data communication environment; define the two main network structures (star and ring); define telecommunication terminology necessary to understand data communication concepts.
*Prerequisite: EDP 4314 or departmental consent, ACC 1605 or departmental consent. (5-0) 5

***EDP 4516 CICS:** Upon completion of this course, students should be able to state the differences between Online and Batch programs; list the common characteristics of online applications; describe the qualities needed by a good telecommunications monitor; describe the data flow within the Customer Information Control System/Virtual Storage (CICS/VS) telecommunication monitor; define important tables and storage areas utilized by CICS/VS; code, compile and catalog physical and symbolic map descriptions (Screen formats) using the Basic Mapping Support (BMS) facility of CICS/VS; code and execute Command Level COBOL programs for file record inquiry, file record creation, file record update, file record deletion, file browsing, link and transfer of control between independent programs; define the CICS/VS statements necessary to use temporary storage.
*Prerequisite: EDP 3516. (3-4) 5

***EDP 4517 Batch Data Processing Applications:** Upon completion of this course, students should be able to identify in general the approach steps in design and programming of a batch business data processing application and use these steps in the design of a specific application; write programs to create and process files on tape and/or disk as required by the selected business application; write programs to include and/or state various programming requirements and techniques used in batch business application programming, such as the logic for matching, merging, data editing, multi-level control breaks, table processing, and various report formats; and code the required JCL for programs and utilities as needed in implementing the application.
*Prerequisites: EDP 3516, EDP 4425, EDP 4314. (3-4) 5

***EDP 4518 Real Time Data Processing Application:** Upon completion of this course, students should be able to identify in general the approach steps in design and programming of a real time business data processing application and use these steps in the design of a specific application; work on a programming team in programming a complete application; make decisions regarding files, number, and scope of programs, and others regarding a particular computerized application; write programs to implement a particular application with VSAM file processing; code the required JCL for programs and utilities as needed in implementing the application.
*Prerequisites: EDP 4516, EDP 4435, EDP 4515. (3-4) 5

EDP 5201 CRT Use in Business Applications: The CRT (cathode ray tube) is becoming more prominent as the computer becomes accessible to all areas of business. The CRT Use in Business Applications course is designed to familiarize students with the general use of the CRT. Upon completion of this course, students should be able to describe the properties of CRT use; define the general use of functional keys; obtain particular display screens upon request; use the CRT effectively for feeding and obtaining information to and from the computer. (2-0) 2

***EDP 5284 Cooperative Education Experience I:** Upon successful completion of this course, students should be able to demonstrate results of applied experience to complement class and lab instruction in COMPUTER OPERATIONS.
*Permission of CO-OP staff. (0-20) 2

***EDP 5285 Cooperative Education Experience II:** A continuation of EDP 5284 which further refines the student's skills learned and practiced in Cooperative Work Experience I. Permission of CO-OP staff.
*Prerequisites: Successful completion of EDP 5284. (0-20) 2

***EDP 5390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the

supervision of a sponsoring staff member.
*Prerequisite: Approval of the sponsor and department head. (3-0) 3

***EDP 5424 Programming I—Operators:** Upon completion of this course, students should be able to write COBOL programs that will generate business reports with headings and simple arithmetic operations performed on input data; analyze listings of COBOL programs to determine such things as file, record and field names, input/output record layouts, input/ output devices; list the steps and describe JCL involved in compilation and execution of a COBOL program as handled under an operating system.
*Prerequisites: EDP 1500, FIN 3314. (3-2) 4

***EDP 5425 Programming II—Operators:** Upon completion of this course, students should be able to explain the general purpose of the RPG Specification forms; code, debug, execute RPG programs to perform basic calculations and generate reports involving control breaks, headings and form control.
*Prerequisites: EDP 1500, FIN 3314. (3-2) 4

***EDP 5524 General Data Processing Applications:** Upon completion of this course, students should be able to code the DOS and power JCL necessary to execute programs stored in a library and code the JCL for files to be used by the program; draw system operational flow charts; read a selected operator run sheet to determine devices, files backup and rerun procedures, type forms, form distribution, transaction/ master file storage, and special control records for the jobs; prepare master file and transaction file records for a selected business data processing applications; prepare a run schedule, run the programs and verify the results for a selected business data processing application; use return codes in controlling job step execution; define selected terms associated with business data processing applications.
*Prerequisites: EDP 5614, ACC 3600; Corequisite: EDP 5424. (4-2) 5

EDP 5601 Data Entry I-A: This is the first course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the first two-thirds of EDP 5901. Upon completion of this course, students should be able to identify records; describe the process of record formatting; utilize various source documents; punch program cards for the keypunch machines; define selected terms related to data entry; be able to use a CRT at an elementary level; obtain an acceptable level of accurate keystrokes per hour. (3-9) 6

***EDP 5602 Data Entry I-B and II-A:** This is the second course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the last one-third of EDP 5901 and the first one-third of EDP 5902. Upon completion of this course, students should be able to recognize data errors and correct them; perform operational procedures for transferring data from one medium to another; operate a CRT at an intermediate level; obtain an acceptable level of accurate keystrokes per hour.
*Prerequisite: EDP 5601 or consent of instructor. (2-12) 6

***EDP 5603 Data Entry II-B:** This course is the third course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the last two-thirds of EDP 5902. Upon completion of this course, students should be able to operate a CRT at an advanced level; define the principles of the batch/edit routine; define the principles of program development of data entry applications; obtain an acceptable level of accurate keystrokes per hour.
*Prerequisite: EDP 5602 or consent of instructor. (3-9) 6

***EDP 5613 Computer Operations I:** Upon completion of this course, students should be able to list and perform the computer operator's duties in the operation of a card reader/punch, magnetic tape, magnetic disk, and console control devices; describe the hardware components of a business computer system; convert binary, hexadecimal, and decimal from one base to the other; interpret and use standard operator run instructions; run selected utility programs. Students will receive "hands on" experience on a computer system.
*Corequisite: EDP 1500. (5-2) 6

***EDP 5614 Computer Operations II:** Upon completion of this course, students should be able to identify the librarian used in DOS/VSE; understand how DOS/VSE implements the use of virtual storage; execute the procedures to IMPL and IPL; list and use operator commands for communicating with the DOS/ VSE system; use the proper procedures for responding to error-related messages to system operation; identify the purpose and function of VSE/POWER; interpret job status information; use POWER operator commands. Students will receive "hands on" experience on a computer system.
*Prerequisite: EDP 5613. (5-2) 6

*__EDP 5615 Computer Operations III:__ Upon completion of this course, students should be able to trace the job flow in a multitasking computer environment; list the purpose and types of JCL statements for OS; use manuals to code JCL and execute selected utility programs available on computer system used by CPCC; define the various features of an operating system; define OS operator commands and interpret OS operator messages.
*Prerequisite: EDP 5613. (5-2) 6

*__EDP 5616 Computer Operations IV:__ Upon completion of this course students should be able to format the data and job control language to process a selected data processing application; create and use run instructions necessary to process a selected data processing application; operate a system with a DOS/VSE operating system; define means and methods of computer room and data security; utilize necessary manuals to solve error and recovery procedures; present a written description of a menu system. Students will gain considerable "hands on" experience using a computer system in lab.
*Prerequisites: EDP 5614, EDP 5524. (4-4) 6

EDP 5901 Data Entry I: Upon completion of this course, students should be able to identify records; describe the process of record formatting; recognize data errors and correct them; utilize various source documents; define selected terms related to data entry; be able to use a CRT at elementary level; obtain an acceptable level of accurate keystrokes per hour. (4-15) 9

*__EDP 5902 Data Entry II:__ Upon completion of this course, students should be able to operate a CRT at an advanced level; define the principles of program development of data entry applications; perform operational procedures for transferring data from one medium to another; define the principles of the batch/edit routine; obtain an acceptable level of accurate keystrokes per hour.
*Prerequisite: EDP 5901 or consent of instructor. (4-15) 9

Co-operative Education

(See p. 81)

Computer Engineering Technology

(See Engineering Technology)

Computer Operations

(See Computers)

Computer Programming, Business

(See Computers)

Continuing Education

(See Corp/Cont Ed., p. 60)

Correctional and Juvenile Services

CSC 3300 Law and Policies in Corrections: Upon completion of this course students should be able to diagram the organization of the Division of Prisons; list inmate conduct rules and describe disciplinary procedures; describe the classification process for inmates; describe the method for proper contact and communication with the public and courts; identify treatment procedures; outline standard procedures in case of a major emergency; list and describe the duties and general orders for Correctional Officers; describe the administrative remedy procedure for inmates; demonstrate an understanding of the impact of recent court rulings on policies; explain ethics and confidentiality rulings. (3-0-0) 3

CSC 3500 Introduction to Corrections: Upon completion of this course, students should be able to demonstrate an understanding of corrections, probation and parole; describe how corrections, probation and parole fit into the criminal justice system; discuss the conflicting ideologies of punishment, treatment, and prevention; identify the different correctional systems of State and Federal governments; explain the various job positions available in this field. (5-0-0) 5

CSC 3501 Correctional Counseling and Treatment: Upon completion of this course, students should be able to define classification; list the differences between classification, counseling, and correctional treatment; describe the differences and similarities used in institutional and community programs for adults and juveniles; identify the need for, and controlling incarcerated clients; list the methods of measuring the effectiveness and problems of a variety of programs; identify the problems associated with the treatment of the mentally retarded, mentally ill, substance abuser, and of HIV infected clients in the correctional setting; describe the demands placed upon staff and clients, and the interactions that result. (5-0-0) 5

CSC 3504 Juvenile Justice System: Upon completion of this course, students should be able to cite the history and evolution of the Juvenile Justice System; outline the present-day Juvenile Court process and procedure; identify the characteristics of juvenile offenders and their subculture; depict the process from arrest to final disposition for juvenile offenders; be acquainted with the variety of dispositions; differentiate between the adult and juvenile justice systems while understanding their ramifications; develop alternatives to incarceration; describe the conflicting theories and ideologies of treatment and prevention; identify the need for professional personnel and their respective manpower requirements; develop the necessary attitude, empathy, and knowledge to assist in working in and with the juvenile justice system. (5-0-0) 5

CSC 3505 Victimology: Upon completion of this course students should be able to explain why many victims do not report crimes; compare victims of specific crimes; explain the development of victimology as a field of study; identify victims' vulnerability and their share in the responsibility for crimes; identify and state the victims' role in the Criminal Justice System; evaluate methodological measuring of victimization; describe at least five victim assistance programs/ services; identify crime prevention techniques; explain existing and pending victims; rights legislation; develop recommendations to improve conditions for victims. (5-0-0) 5

CSC 3507 Criminal Personality and Behavior: Upon completion of this course, students should be able to identify the various viewpoints of criminal behavior as described by the sciences of psychology, sociology, and psychiatry; develop a clear definition of criminal behavior; identify behavior that is normal versus that behavior which is considered anti-social; prepare a profile of a criminal type of person as defined by society; identify and evaluate treatment methods and define their rationale in dealing with criminal offenders; compare past theories of causes of criminal behavior to current research; identify the different personalities of the following: the mentally ill, aggressively violent, homicidal, sexual offender, and female offender. (5-0-0) 5

CSC 3508 Drugs, Society, and Crime: Upon completion of this course, students should be able to identify the signifiicant historical events in the United States that have caused an increase in drug use and abuse; define the chemical composition of drugs used by society; identify the various drug classifications, list examples of each, and describe their uses; define psychoactive and non-psychoactive drugs and identify and describe the North Carolina Controlled Substances Act and the Drug Paraphernalia Act; describe various ways drug use affects our society and increases the incidence of crime; identify the drugs most commonly sold illegally. (5-0-0) 5

CSC 3509 Court Intake Officer: Upon completion of this course, students should be able to conduct an interview with clients and the public; describe the structure and relationships of the various North Carolina Courts; show by demonstration proper courtroom decorum and etiquette; prepare a written pre-sentence report; make an oral pre-sentence report; prepare a technical report and summary; and list the proper sequence and procedures for filing these reports. (5-0-0) 5

CSC 3510 Women in the Criminal Justice System: Upon completion of this course, students should be able to discuss an overview of the history of women in the criminal justice system; identify the crimes most often committed by women in both victimless and violent crimes; state the difference and similarities between women and men offenders during arrest, trial, and sentencing, in prison and treatment; list the difficulties of incarcerated mothers, conditions of prisions, and women offenders in probation, parole, and community corrections; describe theories of why women commit crimes; identify the roles of women in the criminal justice system as judges, attorneys, police, correction officers, and the problems they face. (5-0-0) 5

CSC 3520 Jail Operations and Management: Upon completion of this course the student should be able to identify the North Carolina General Statutes for the minimum standards for jails; describe the basic standard operating procedures for local confinement facilities; describe the procedures for persons brought to the jail for processing into the system; demonstrate the ability to search an incoming and resident prisoner and describe the procedures for a shakedown of cells and general areas; identify the major responsibilities the professional jailer has toward society, the administration, and the inmates; list at least three medical crises situations and what is required to respond; list at least five precautions when transporting prisoners; profile a composite jail suicide; and outline the procedure for medical care in jails. (5-0) 5

***CSC 3524 Probation and Parole:** Upon completion of this course, students should be able to

discuss the origins of probation from common law through the present statutes; explain the legal rights of prisoners; describe how ordinary political and civil rights may be taken away as a result of a criminal conviction and how they may be restored; describe probation and parole revocation procedures from arrest, to hearing, through judicial review; discuss the types and kinds of conditions for probation and parole; discuss group treatment programs; and list and describe the various community resources available for the probationer and parolee.
*Prerequisite: CSC 3500. (5-0-0) 5

CSC 4514 Community Based Programs: Upon completion of this course, students should be able to name and describe a wide variety of successful programs used by the courts and corrections; identify how community resources are mobilized to respond to the needs of both offenders and citizens; analyze factors that inhibit or aid the success of a program; describe the relationship betwen the program, the police, courts, and public; define the problems of funding, politics, and staff competency; explain work release, furloughs, mutual agreement contracts, and halfway house programs as alternatives to incarceration. (5-0-0) 5

Data Entry Operations

(See Computers)

Dance

(Also see HPE)

†*Does not meet humanities requirement.*

DAN 1154 Tap Dance I: Upon completion of this course, students will demonstrate the correct rhythms used in basic tap steps at the barre, in the center, and traveling step (including turns), and demonstrate an understanding of basic tap terminology. (0-3) 1

***DAN 1155 Tap Dance II:** Upon completion of this course, students will demonstrate an understanding of correct rhythms and body placement in executing all elementary level tap steps.
*Prerequisite: DAN 1154. (0-3) 1

***DAN 1156 Tap Dance III:** Upon completion of this course, students will demonstrate an ability to perform advanced-elementary level routines in addition to more complex rhythm patterns.
*Prerequisite: DAN 1155. (0-3) 1

DAN 1157 Jazz Dance I: Upon completion of this course, students will demonstrate an understanding of isolations and coordination exercises as they relate to basic jazz techniques. Special attention is given to various rhythms. (0-3) 1

***DAN 1158 Jazz Dance II:** Upon completion of this course, students will demonstrate a knowledge of more complex jazz movements and theatrical jazz styles.
*Prerequisite: DAN 1157. (0-3) 1

***DAN 1159 Jazz Dance III:** Upon completion of this course, students will demonstrate a knowledge of syncopated rhythms and stylized improvisation as used in jazz dance.
*Prerequisite: DAN 1158. (0-3) 1

DAN 1184 Modern Dance I: Upon completion of this course, students should have acquired an understanding of the elements of dance with emphasis on techniques, requiring a basic degree of skill in performing single practice exercises on the floor, at the barre and in center floor. (0-3) 1

†***DAN 1185 Modern Dance II:** Upon completion of this course, students should have acquired mastery of modern dance technique, requiring an elementary degree of skill and be able to perform simple movement combinations in center floor.
*Prerequisite: DAN 1184. (0-3) 1

†***DAN 1186 Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at the elementary level and will have begun exploration into different qualities of movement and different spatial relationships utilized in dance.
*Prerequisite: DAN 1185. (0-3) 1

†**DAN 1194 Ballet I:** Upon completion of this course, students should have acquired an understanding of body placement with emphasis on technique, requiring a degree of skill and be able to perform simple practice exercises at the barre and in center floor. (0-3) 1

†***DAN 1195 Ballet II:** Upon completion of this course, students should have acquired further elementary skills in ballet techniques as well as simple movement combinations in center floor.
*Prerequisite: DAN 1194. (0-3) 1

†***DAN 1196 Ballet III:** Upon completion of this course, students should have acquired use of ballet techniques at the elementary level and have a knowledge of basic performing skills.
*Prerequisite: DAN 1195. (0-3) 1

†***DAN 1197 Ballet Pointe Work:** Upon completion of this course, students should have acquired a knowledge of and a certain proficient execution of beginning pointe work, foot and leg strengthening exercises, and correct fitting and care of pointe shoes.
*Prerequisite: DAN 2194 and permission of instructor. Corequisite: To be taken with an intermediate technique class; see the department head for a current list of these classes. (0-3) 1

†***DAN 1280 Dance for Musical Theatre:** Upon completion of this course, students should be able to demonstrate alignment fundamentals and differences in styles basic to jazz, tap, and folk dance through classroom performance. (0-4) 2

DAN 1290 Dance Sources: Upon completion of this course, students should be able to demonstrate in writing an understanding of the geographical, historical, and social background of specific countries; demonstrate through performance the types and styles of dances characteristic of these countries. (1-2) 2

DAN 1384 Dance History I: A historical survey of dance until 1500. Upon completion of this course, students will demonstrate in writing and discussion an understanding of how these dance forms were established historically, the role of the "dancer" in the primitive cultures, and how these forms have influenced dance in the Twentieth Century. (3-0) 1

DAN 1385 Dance History II: A historical survey of dance as a theatre art form from 1500 until 1970. Upon completion of this course, students will demonstrate in writing and discussion an understanding of dance as a theatre art and how the personalities which have influenced the establishment of this form were shaped by our Western cultural heritage. (3-0) 1

DAN 1386 Dance History III: Upon completion of this course, students will demonstrate in writing and discussion an understanding of an aesthetic system which enables them to identify basic creative principles in all dance forms and how our cultural perspective influences choreographic choices. (3-0) 1

†***DAN 2184 Intermediate Modern Dance I:** Upon completion of this course, students should have made significant progress in this technique, have acquired an understanding of kinesthesis (body energy).
*Prerequisite: DAN 1186. (0-3) 1

†***DAN 2185 Intermediate Modern Dance II:** Upon completion of this course, students should have acquired further mastery of modern dance skills and an understanding of musical structure and how it relates to phrasing in dance.
*Prerequisite: DAN 2184. (0-3) 1

†***DAN 2186 Intermediate Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at an intermediate level; have a firm working knowledge of the elements of dance; have been introduced to different dance selections representative of the modern dance repertoire.
*Prerequisite: DAN 2185. (0-3) 1

†***DAN 2194 Intermediate Ballet I:** Upon completion of this course, students should have made significant progress in technique; have achieved a performing proficiency of set patterns.
*Prerequisite: DAN 1196. (0-3) 1

†***DAN 2195 Intermediate Ballet II:** Upon completion of this course, students should have acquired further mastery of ballet technique and the application of variables affecting performance.
*Prerequisite: DAN 2194. (0-3) 1

†***DAN 2196 Intermediate Ballet III:** Upon completion of this course, students should have acquired mastery of ballet technique at an intermediate level as well as the ability to execute and perform complicated movement variations in extended sequences (more than one phrase).
*Prerequisite: DAN 2195. (0-3) 1

***DAN 2284 Choreography I—Improvisation:** Upon completion of this course, students should be able to complete exercises utilizing spontaneous movement which creatively apply elementary principles of composition.
*Corequisite: Must be enrolled in a Modern Dance technique class; see the department head for a list of these classes. (0-4) 2

***DAN 2285 Choreography II—Fundamentals of Composition:** Upon completion of this course, students should be able to demonstrate the elements of time and space as they relate to the fundamentals of dance composition.
*Corequisite: Must be enrolled in a Modern Dance technique class; see the department head for a list of these classes. (0-4) 2

***DAN 2286 Choreography III—Dance Forms:** Upon completion of this course, students should be able to demonstrate the use of form within a dance and various techniques of manipulating a form.
*Corequisite: Must be enrolled in a Modern Dance technique class; see the department head for a list of these classes. (0-4) 2

***DAN 2384 Dance Seminar:** Upon completion of this course, students will demonstrate, through video performance, a basic knowledge of all aspects of the creation of a new ballet. The new work will be costumed and rehearsed for performance the following quarter.
*Corequisite: To be taken in conjunction with one or more technique classes; see the department head for a list of these classes. (2-2) 3

***DAN 2388 Dance Production I:** Upon completion of this course, students will demonstrate, through performance, a basic knowledge of both the artistic and technical aspects of dance production to include auditions, rehearsals, and performances before an audience. In addition to performing, students will have actively participated in lighting design and operation, costume design and construction, publicity, and operation of box office activities.
*Corequisite: To be taken in conjunction with technique classes; see the department head for a list of these classes. (0-12) 3

Dental Assisting

***DEA 5104 Dental Assistant Seminar:** This course is designed to discuss and evaluate clinical experiences gained during Dental Office Practice IIA. Emphasis will be placed on personal responsibilities as a practitioner, employee-employer relations, and problem solving techniques. Upon completion of this course, students should be able to develop personal responsibilities and demonstrate problem solving techniques.
*Prerequisite: Fourth quarter standing in the Dental Assisting Program. (1-0-0) 1

***DEA 5201 Microbiology for Dental Auxiliaries:** This is an introductory course designed to provide students with a basic background in the classification and characterizations of microorganisms. Upon completion of this course, students should be able to recognize and classify microorganisms as they relate to the oral cavity. Emphasis will be placed on sterilization, asepsis, and infection control within the dental environment.
*Prerequisite: Acceptance into the Dental Assisting Program. (2-0-0) 2

***DEA 5202 Oral Pathology:** Upon completion of this course, students should be able to describe the basic pathological processes and physical manifestations of selected diseases, their association with the oral cavity, and common pathological conditions of the teeth and oral cavity. Emphasis will be placed on the differences between normal and abnormal tissues.
*Prerequisite: DEA 5400. (2-0-0) 2

***DEA 5301 Office Emergencies and Pharmacology:** Upon completion of this course, students should be able to state dosage, methods of administration, and storage of common drugs and medicaments used in the dental office and perform first aid and emergency care for the patient in the dental office. Emphasis is placed on the means and methods of preventing dental office emergencies, as well as on the administration of life saving treatments. Students will become certified in cardiopulmonary resusciatation.
*Prerequisite: DEA 5400. (3-0-0) 3

***DEA 5303 Oral Health Education:** Upon completion of this course, students should be able to implement a patient oral health program which will include oral hygiene instruction, methods of motivation, concepts of teaching, utilization of educational media, fluoridation as a preventive measure, and nutritional counseling concepts. Some emphasis will be placed on community health programs.
*Prerequisite: Second quarter standing in the Dental Assisting Program. (2-0-3) 3

***DEA 5334 Dental Office Management:** Upon completion of this course, students should be able to effectively manage a dental office. Emphasis will be placed on office management procedures, communication skills, telephone techniques, clinical records, appointment control, records management, filing systems, bookkeeping, dental insurance, collections, inventory control, and resume and job interview preparation.
*Prerequisite: Third quarter standing in the Dental Assisting Program. (3-0-0) 3

***DEA 5400 Anatomy for Dental Auxiliaries:** Upon completion of this course, students should be able to recall facts and specifics regarding the general anatomy of the body and basic concepts of the normal functions of body systems; identify oral structures with special emphasis on the identification of the primary and permanent dentition; identify the bones, muscles, blood, lymph, and nerve supply of the head and neck region; identify landmarks of the skull.
*Prerequisite: Acceptance into the Dental Assisting Program. (4-0-0) 4

DEA 5425 Clinical Procedures II: This course is a continuation of Clinical Procedures I and is designed to further prepare the student in chairside dental assisting procedures with major emphasis on

the role of the dental assistant in various dental specialties including endodontics, periodontics, orthodontics, prosthodontics, pediatric dentistry, and oral surgery. Upon completion of this course, students should be able to identify and effectively handle dental equipment, instruments, and procedures involving the various specialties.
*Prerequisite: Third quarter standing in the Dental Assisting Program. (3-2-0) 4

DEA 5502 Introduction to Dental Assisting: Upon completion of this course, students should know the purpose, history and progress of dentistry; understand all the laws and ethics governing the dental profession; identify members of the dental health team, their education, training, function, and respective professional associations; demonstrate principles and procedures related to dental operatory equipment, instruments, sterilization, oral evacuation, instrument transfer and chairside dental assisting techniques with emphasis on four-handed dentistry.
*Prerequisite: Acceptance into the Dental Assisting Program. (2-6-0) 5

***DEA 5514 Dental Radiology:** Upon completion of this course, students should know the rationale and utilize methods for protecting the patient and operator from ionizing radiation, and the principles involved in the production of x-rays, correctly identify parts of the dental x-ray unit and discuss the function of these parts; be able to prepare a diagnostically acceptable series of dental x-rays using a variety of intraoral techniques; identify correctly and be familiar with extraoral techniques; be able to identify various processing equipment; process films in both the wet tanks and automatic processor; identify correctly anatomical landmarks; select appropriate film mounts and correctly mount a full series of radiographs; recognize errors in the placement, exposure and processing, and be able to correct them.
*Prerequisite: Second quarter standing in the Dental Assisting Program. (2-6-0) 5

***DEA 5543 Dental Office Practice I:** This course includes practice as a chairside and coordinating asistant in the on-campus dental clinic. Upon completion of this course, students should be able to perform at chairside with dentist and patient in general dentistry procedures; demonstrate the ability to apply classroom theory in the dental clinic in the areas of instrument transfer, oral evacuation, operatory preparation, radiology, sterilization, and laboratory procedures; demonstrate the ability to manage the clinic while functioning as the coordinating assistant.
*Prerequisite: Third quarter standing in the Dental Assisting Program. (0-0-15) 5

***DEA 5544 Dental Office Practice IIA:** Students will rotate through selected off-campus specialty offices, the Central Piedmont Dental Clinic and the Charlotte Memorial Dental Clinic, during the fourth quarter of the program. The program faculty will plan the student's experiences so that the student will be exposed to all facets of the dental office. Upon completion of this course, students should be able to apply all classroom theory and perform skills acquired in the dental office at competency level.
*Prerequisite: Fourth quarter standing in the Dental Assisting Program. (0-0-15) 5

***DEA 5545 Dental Office Practice IIB:** DEA IIB is an integral part of DEA 5544 IIA and carries the same objectives, activities, and course grade. (0-0-15) 5

***DEA 5700 Dental Materials:** Upon completion of this course, students should be able to demonstrate a knowledge of the theory of intra and extra oral materials on written and practical exams. Students must be able to demonstrate a sufficient level of skill in the laboratory and clinical application of routinely used dental materials. Through the integration of lecture and laboratory experience, students must be able to properly select and manipulate materials for any given procedure.
*Prerequisite: Acceptance into the Dental Assisting Program. (3-8-0) 7

***DEA 5724 Clinical Procedures I:** During this course, students will utilize lecture, lab, and clinical experiences in order to become competent in chairside assisting in general dentistry. Upon completion of this course, students should be able to identify and effectively handle various types of dental equipment and instruments utilized in general dentistry; demonstrate proficiency in preparation of dental materials, assembling an anesthesia syringe, rubber dam placement and removal, matrix and wedge placement and removal; identify basic knowledge in general dentistry procedures.
*Prerequisites: DEA 5502, DEA 5700. (2-6-6) 7

Dental Hygiene

***DEN 3202 Head and Neck Anatomy:** Upon completion of this course, students will be able to name and locate the major bones and landmarks of the skull. In addition, students will be able to name and locate the major muscles of mastication and facial expression, and describe the action of these muscles. Students will also be able to describe the circulation of the blood in the head and oral region and locate the

oral structures the various divisions of the trigeminal nerve supply, and list the oral structures each division affects, as well as decribe the correct areas to administer local anesthetic to affect a specific oral structure.
*Prerequisite: DEN 3401. (2-0-0) 2

***DEN 3203 Office Emergencies:** Upon completion of this course, students will be familiar with the principles and procedures for first aid, including cardiopulmonary resuscitation. Students will learn the means and methods of preventing office emergencies, as well as the administration of life-saving treatments, and will become certified in Cardiopulmonary Resuscitation.
*Prerequisite: BIO 1505. (2-0-0) 2

DEN 3223 Dental Health Education: Upon completion of Dental Health Education, students will be able to implement individual and group plaque control programs and demonstrate educational methods and concepts. Further, they will develop and present audio-visual materials, and stimulate individual or group behavior change via good communication. Students will also counsel individuals and groups on preventive dental health measures involving nutrition, oral physiotherapy, fluorides, accident prevention, and periodic visits to the dentist. They will plan and develop a unit plan for group dental health education. (1-2--0) 2

***DEN 3300 Introduction to Dental Anatomy:** This is a dental anatomy course that covers dental anatomy as it pertains to the permanent dentition. Students will become familiar with basic tooth morphology, arrangement of the teeth in the mouth, tooth names, structures, and specific distinguishing characteristics of each tooth. Effective methods of studying dental anatomy and its many facets are emphasized. The course is usually offered Winter and Spring quarters.
*Prerequisite or corequisite: EDU 9300 Effective Learning Skills (3-0--0) 3

***DEN 3302 Oral Embryology and Histology:** Students will be able to describe the embryological development of the head and neck with specific emphasis placed upon oral structures such as teeth, glands, tongue, etc. Recognition of oral defects including dental defects due to irregular development and their clinical significance will be evaluated by the students. They will gain microscopic and histologic knowledge of dental and oral structures, and will be encouraged to relate the knowledge gained from this subject to the clinical patient.
*Prerequisites: DEN 3401, BIO 1504. (3-0-0) 3

***DEN 3401 Dental Anatomy:** Upon completion of DEN 3401, students will be able to recall specific anatomical structures of the permanent and deciduous dentition, as well as identify extracted samples of each tooth. They will also demonstrate a familiarity with dental terminology, gross oral anatomy, and classification of occlusion.
*Prerequisite: Acceptance into the Dental Hygiene Program. (3-2-0) 4

***DEN 3411 Preclinical Dental Hygiene I:** Upon completion of this course, students will have developed a personal philosophy of patient-centered care. They will gain knowledge and experience in the assessment phase of dental hygiene care, including aseptic technique, equipment care and maintenance, obtaining a medical history, performing an extra-oral and intra-oral examination, charting of oral conditions and recording periodontal findings.
*Prerequisite: Acceptance into the Dental Hygiene Program. (2-4-0) 4

***DEN 3503 Dental Radiology:** Students will recall the theory and fundamentals involved in the production of x-rays. They will be held responsible for knowing the safety precautions to be utilized and the legal implications involved in radiologic exposure. They will be adept in taking radiographs first on manikins, next on each other, and finally on clinical patients. Students will evaluate radiographs.
*Prerequisite: DEN 3401. (3-4-0) 5

***DEN 3512 Preclinical Dental Hygiene II:** Through practice on manikins, each other, and selected patients, students will demonstrate the ability to record, plan, and execute a dental prophylaxis maintaining aseptic conditions, without traumatizing hard and soft tissues. A familiarity with the instruments and their use is required.
*Prerequisites: DEN 3411, DEN 3401. (2-6-0) 5

***DEN 3513 Dental Hygiene I:** Students will accomplish a complete dental prophylaxis on a number of selected patients. Treatment plans for special patients will be considered. Increasing skill in charting and periodontal evaluation will be developed. Major consideration will be given to the removal of supragingival deposits and the developing of skill in detection and removal of subgingival deposits.
*Prerequisite: DEN 3512. (2-0-9) 5

***DEN 4206 Chairside Assisting:** Students will experience chairside assisting skills expected of a trained auxiliary. Students will be competent in four-handed dentistry, rubber dam placement, matrix band placement, and placement of temporary restorations, and take alginate impressions and pour up study mod-

els. Students will also place pit and fissure sealants.
*Prerequisite: DEN 4505. (1-2-0) 3

***DEN 4207 Community Dental Health II:** Students will study resources available in the community to assist individuals and groups in meeting dental needs. They will identify a target group and spend ten weeks completing a needs assessment, developing a program plan, implementing the plan, and evaluating the results. The student will present the results along with statistics and a visual display as a final report to the class.
*Prerequisite: DEN 4406. (1-0-3) 2

***DEN 4226 Pharmacology:** Students will demonstrate a knowledge of pharmacological nomenclature and terms, sources of drugs, fundamental types of pharmacologic action, patient reaction to drugs and treatment of adverse reactions. Types and classes of drugs will be enumerated, They will write a general outline for a prescription and indicate a knowledge of the laws dealing with drugs.
*Prerequisite: CHM 1505. (2-0-0) 2

***DEN 4306 Periodontology:** Students will discuss principles of periodontics. They will describe, compare, and contrast techniques involved in periodontal treatment and maintenance therapy, and will be able to discuss each classification of periodontal disease according to definition, clinical characteristics, radiographic changes, and case management.
*Prerequisite: DEN 3402. (3-0-0) 3

***DEN 4306 Pathology:** Students will gain introductory knowledge of general and oral pathology with emphasis on recognition of disease conditions that the dental hygienist may encounter. They will be able to recognize common abnormalities, describe appearances or suspicious lesions and conditions, and recognize frequently encountered diseases and pathologic conditions.
*Prerequisites: BIO 1504, BIO 1505, DEN 3402.
(3-0-0) 3

***DEN 4406 Community Dental Health I:** Upon completion of this course, students will relate the role of the dental professional in the dental health field. They will describe the prevalence and methods of prevention of dental disease, and will explore principles and delivery of dental care, identify principles of program planning, implementation and evaluation.
*Prerequisite: DEN 3223. (3-2-0) 4

DEN 4407 Dental Hygiene Practice—Issues and Trends, and Office Management: As a result of this course, students will become aware of current issues and trends in dental hygiene practice. They will explore roles, values, ethics, and responsibilities as health care providers. They will also visit dental offices and observe various employment settings and share experiences and observations with classmates. (3-0-3) 4

***DEN 4505 Dental Materials:** This is a course designed to introduce dental hygiene students to fundamental techniques and properties involved in manipulating materials used in the dental office. Students will gain clinical proficiency through actual application of laboratory procedures.
*Prerequisite: CHM 1503. (3-4-0) 5

***DEN 4616 Dental Hygiene III:** Sixth quarter dental hygiene students will gain proficiency in performing a complete oral prophylaxis on all patient classifications. Major emphasis is placed on increasing students' subgingival deposit removal skills. In addition, continued emphasis will be given to meeting the individual needs of the patient, along with clinical application of basic chairside assisting skills.
*Prerequisite: DEN 4715. (1-0-15) 6

***DEN 4617 Dental Hygiene IV:** Students will develop speed and efficiency in accomplishing a dental prophylaxis to prepare for entrance into the work market. Major emphasis will be placed upon the treatment of an increased number of patients during clinic sessions without sacrificing quality of care. Demonstration of exit level competencies for all practice tasks is required. Information will be gained concerning dental specialty practices. Self evaluations are utilized for determination of employment potential.
*Prerequisite: DEN 4616. (1-0-15) 6

***DEN 4715 Dental Hygiene II:** Dental hygiene students will gain proficiency in performing a complete oral prophylaxis on all classifications of patients, which will include plaque control instruction and detection, and removal of all deposits within the capabilities of the fifth quarter dental hygiene student. Major consideration will be given to the refining of calculus detection skills.
*Prerequisites: DEN 3513, DEN 3223. (2-0-15) 7

Drug Administration—Advancement Studies

***DRG 9502 Basic Calculation for Drug Administration:** A mathematics and systems preparation course for students who will enter *ANY* of the health curricula. Mathematics framework, metric system, apothecaries system, ratio and proportion, temperature conversions, household system, tablet dosages, solutions, and insulin dosages are the units available for study.

*Prerequisite: Completion of MAT 9500 or consent of the instructor. EDU 9300 Effective Learning Skills is highly recommended as a prerequisite or corequisite. (5-0) 5

Diesel Vehicle Maintenance

DSL 4400 Automotive Diesel Engines: Upon completion of this course, students should be able to describe the operation and construction of diesel engines used in current production automobiles and light trucks to 8000 GVW; perform service tasks required in disassembly, inspection, and reassembly of diesel engines and related components; diagnose and service diesel engine systems. (2-6) 4

***DSL 5204 Diesel Vehicle Maintenance Co-Op I:** Upon completion of this course, students should be able to apply skills acquired in diesel vehicle maintenance courses to actual work situations in the diesel vehicle maintenance industry; produce a work log sheet containing the types and number of job tasks completed in industry during the co-operative work experience, and demonstrate exemplary attendance and work habits.

*Prerequisites: Successful completion of first quarter classes—DSL 5311, DSL 5312, DSL 5300, DSL 5304. Completion and acceptance by Program Director of Work Experience Registration Approval Form. (0-20) 2

***DSL 5205 Diesel Vehicle Maintenance Co-Op II:** This course is a continuation of DSL 5204 Diesel Vehicle Maintenance Co-Op I.

*Prerequisite: DSL 5204. Completion and acceptance by Program Director of Work Experience Registration Approval Form. (0-20) 2

DSL 5206 Cab Heating and Air Conditioning: Upon completion of this course, students should be able to describe the operation of a cab heating system including the function of components such as heater cores, heater controls, thermostats, water valves, and air flow ducting; describe the operation of a cab air conditioning system including the function of components such as compressors, pressure sensors and trianary switches; test for leaks, both coolant and A/C fluid, make necessary repairs; evacuate and charge an air conditioning system. (1-3) 2

***DSL 5207 Diesel Vehicle Maintenance Co-Op III:** This course is a continuation of DSL 5204 and DSL 5205, Diesel Vehicle Maintenance Co-Op II.

*Prerequisites: DSL 5204, DSL 5205. Completion and acceptance by Program Director of Work Experience Registration Approval Form. (0-20) 2

DSL 5300 Diesel Fundamentals: Upon completion of this course, students should be able to identify a selection of fasteners by size, grade, and thread type; make repairs to threaded holes; describe safety standards that pertain to vehicle maintenance shops; demonstrate the use of basic measuring instruments to determine component serviceability; describe direct and indirect diesel injection; define terms such as low idle, high idle, peak torque, governor cut-off, line retraction, port closure, and effective stroke as related to diesel injection and governing; identify the major sections of a roots type blower and turbocharger; describe the basic piston and crankpin movements in a diesel engine 4-stroke cycle, and determine items such as compression ratio, cylinder displacement, bore and stroke size, and piston speed. (2-2) 3

DSL 5304 Hydraulics and Pneumatics: Upon completion of this course, students should be able to identify basic hydraulic components from a diagram drawn with standard hydraulic symbols; demonstrate a knowledge of vane, gear and piston pumps and motors; demonstrate a knowledge of pressure flow and directional control valves; compute the volume and speed of cylinders; test the performance of a gear fuel supply pump; define a selection of hydraulic terms; discuss tubing and fittings, hose and couplings; describe air compressors and air governors; identify basic components of a compressed air system. (2-2) 3

DSL 5308 Air Brakes: Upon completion of this course, students should be able to describe the operation of air supply and service system; mechanical foundation brakes; spring brake/parking brake and the ABS system (antilocking braking system); perform an air brake safety test on a vehicle; disassemble and inspect a wheel brake unit, reassemble and adjust to specifications; clean, inspect, lubricate wheel bearing, replace seals and wear rings; adjust wheel bearings to specifications. (2-2) 3

DSL 5309 Electronic Diesel Injection Systems: Upon completion of this course, students should be able to describe the operation of ECM controlled diesel injection systems; describe the function of throttle position sensors, pressure sensors, temperature sensors, camshaft and crankshaft position sensors, speed sensors, electronic control modules, electronic controlled valves and stepper motors as related to electronic diesel injection; obtain fault codes and use troubleshooting fault trees to isolate defects in electronic controlled diesel injection system; use digital VOM meter to test system components; operate engine and verify correction of faults. (2-2) 3

DSL 5310 Diesel Tune-Up and Troubleshooting: Upon completion of this course, students should be able to describe the affects each engine system has on other engine systems; make test gauge connections to check 4-stroke cycle and 2-stroke cycle engine system; perform complete tune-up adjustments on operational 4-stroke cycle diesel engines; perform complete tune-up adjustments on operational 2-stroke cycle diesel engines; run a diesel engine under load and test system pressures; use troubleshooting techniques to locate system problems on operational 2- and/or 4-stroke cycle diesels. (2-2) 3

DSL 5311 Fleet Maintenance Practices: Upon completion of this course, students should be able to complete a PM check-off form; determine items in need of repair or replacement; identify defects in the steering, brakes, lights, etc., which would make the vehicle unsafe to operate. (2-2) 3

DSL 5312 Basic Electricity: Upon completion of this course, students should be able to check continuity in electrical circuits; check applied voltages and voltage drops; check current flow in electrical circuits, test circuits resistances; find shorts and grounds in electrical circuits; test circuit breakers, fuses and fusible links; diagnose and repair battery problems; diagnose and repair starter and starter circuit problems; diagnose and repair charging system problems. (2-2) 3

DSL 5313 Electrical—Electronic Testing: Upon completion of this course, the students should be able to use a digital VOM meter to test circuits with electronic components; describe the function of components used in an ECM controlled circuit to feedback information to the electronic control module, and describe components actuated by the ECM; inspect and repair electronic control module wiring circuits; diagnose and repair lighting system components and circuits; diagnose and repair gauges and warning devices. (2-2) 3

DSL 5321 Transport Refrigeration: Upon completion of this course, students should be able to describe the operation of a basic mechanical refrigeration system as used in transport refrigeration; demonstrate a knowledge of basic principles, the basic refrigeration cycle, system components, and defrost system; perform preventive maintenance on the power unit and refrigeration unit; connect gauge manifold, test and correct refrigerant and oil levels; use the temperature of system components as an aid to troubleshooting system problems; test and isolate electrical problems using a VOM meter. (2-2) 3

DSL 5408 Heavy Duty Chassis and Suspension Systems: Upon completion of this course, students should be able to describe the operation of manual steering and power steering; inspect and adjust steering linkage; inspect and determine excess wear of suspension systems; remove and replace suspension components such as springs, hangers and bushings, torsion bars, torque arms, suspension air bags and level valves; check wheel alignment; determine camber, caster, toe and king pin inclination, and determine needed repairs; check and adjust axle alignment and tracking; diagnose unusual tire wear; make necessary repairs to flat tires; inspect and service fifth wheel and slide; inspect and determine necessary repair for frame defects. (2-4) 4

DSL 5409 Heavy Duty Drive Train: Upon completion of this course, students should be able to describe the operation of single and double disc heavy duty clutches; diagnose and repair clutch related problems; describe the operation of manual heavy duty transmissions; diagnose and repair single and dual countershaft transmission problems; diagnose and repair air operated shift controls and cylinders; diagnose and repair drive shaft and universal joint problems, including measuring and adjustment of drive train angles; describe the operation of drive axles including two speed axles and power dividers; diagnose and repair drive axle problems including disassembly, inspection of differential carriers, and reassembly to specification. (2-4) 4

DSL 5410 Diesel Engines I: Upon completion of this course, students should be able to disassemble and assemble to manufacturer's specifications a typical heavy duty 4-stroke and/or 2-stroke diesel engine; relate the importance of good maintenance to performance of an engine's lubrication, cooling, fuel, intake and exhaust systems; install and make adjustments to compression type engine brakes; demonstrate ability to use service manuals and parts books; crank and run engine. (2-4) 4

DSL 5411 Hydromechanical Diesel Injection Systems: Upon completion of this course, students should be able to describe the operation of scroll and sleeve metering injection pumps, distributor type injection pumps, and Cummins P T fuel systems; assemble and run an inline and/or distributor type and/or Cummins P T pump on test stand; check pump delivery, set governor cut-off, test pump phasing, check starting fuel and peak torque delivery, check low and high idle setting; inspect, test, adjust mechanical governors; install static and/or flow time injection pump to live engine; describe the operation of mechanical unit injectors; clean, inspect, assemble and flow test unit injectors, install in engine and set to specifications. (2-4) 4

DSL 5412 Diesel Engines II: Upon completion of this course, students should be able to overhaul a typical diesel engine; inspect and determine renewability of cylinder head and valve train components; rebuild cylinder head; inspect and determine reuseability of cylinder block and components such as crankshaft, camshaft, timing gears, cylinders liners, pistons, connecting rods, flywheel and ring gear; inspect and determine reuseability of support components such as the injection pump and injectors, water pump, oil cooler, air compressor, generator (alternator), turbocharger, aftercooler and starter motor; repair or replace worn components; assemble engine to manufacturer's specifications, crank and run engine. (2-4) 4

Drafting, Mechanical

DFT 3300 Advertising Drafting: Upon completion of this course, students should be able to use drafting equipment to lay out simple geometric construction; letter words and numbers with standard lettering; lay out a typical title page; read elementary orthographic drawings; produce simple ink drawings, including pictoral drawings; relate instrument drafting to commercial art work. (2-3) 3

***DFT 3314 Mechanical Computer Aided Drafting (CAD) AutoCAD:** Upon completion of this course, students should be able to identify the components of a PC-based CAD system; use the AutoCAD menu system to draw and edit lines, circles, arcs, curves, and text; draw simple 2-dimensional objects; draw simple and complex objects using 3-view orthographic projection; draw cross-section views; dimension detail drawings; create and use a library of standard parts.
*Prerequisite: DFT 3404 or departmental permission. (2-3) 3

***DFT 3315 Mechanical Computer Aided Drafting (CAD) 2D, CV:** Upon completion of this course, using CAD equipment, students should be able to show familiarity with and identify components of the CV system; demonstrate familiarity with the command systems used with CV; draw and dimension simple one-view object drawings; draw and project 3-view orthographic drawings; create isometric views of an object from 3-view drawing; and demonstrate familiarity with editing, dimensioning, and manipulating the object.
*Prerequisites: DFT 3404, DFT 3314 or departmental permission. (1-6) 3

***DFT 3316 Mechanical Computer Aided Drafting (CAD) 3D, CV:** Upon completion of this course, the students should be able to draw simple and complex objects in 3-D; define and use Construction Planes (CPL) to complete a 3-D model of an object; create a library of parts and use them to create a 3-D models.
*Prerequisite: DFT 3315. (1-6) 3

***DFT 3317 Computer Aided Drafting (CAD) III-Detailing:** Upon completion of this course, students should be able to draw and dimension machine element detail such as threads, fasteners, and springs; gears and gearing; cams and cam followers; and other common machine elements.
*Prerequisite: DFT 3315. (1-6) 3

***DFT 3318 Computer Aided Drafting (CAD) IV-Assembly:** Upon completion of this course, students should be able to draw and dimension outline assemblies, working assemblies, and subassemblies.
*Prerequisite: DFT 3317. (1-6) 3

DFT 3319 CAD Project: Upon completion of this course, students will have completed a mechanical or manufacturing drafting project. It will consist of all the detail and part drawings, subassembly and assembly drawings, Bill of Materials and specifications that are necessary to convey the graphical and written information for the completion of a mechanical design or manufacturing processing documentation.
*Prerequisite: DFT 3318. (1-6) 3

DFT 3320 Mechanical Computer Aided Drafting-(CAD) 3-D, AutoCAD: Upon completion of this course, students should be able to create 3-D views of an object; demonstrate understanding of the XYZ coordinate systems; define and use a User Coordinate System (UCS) to create 3-D models; construct 3-D entities by extrusion; and apply 3-D Surface Modeling techniques.
*Prerequisite: DFT 3314. (1-6) 3

DFT 33xx Mechanical Computer Aided Drafting CAD, 2D CADAM: Upon completion of this course students should be able to identify the components of CADAM systems and define their uses; use the commands and controls of the systems to draw points, lines, circles, curves, and text; draw simple two-dimensional objects; draw simple and complex objects in 3-view orthographic projection; draw cross-sectional views; dimension detail drawings; use edit commands to change geometry and text as single items or as

groups; use the analyze commands to find mathematical values for geometry; create separate drawings details and use them in a drawing; file and plot drawings.
*Prerequisite: DFT 3404 or departmental permission. (1-6) 3

DFT 3400 Electrical-Electronics Computer Aided Drafting: Upon completion of this course, students should be able to use computer aided drafting hardware and software to lay out simple geometric construction; draw and dimension elementary orthographic drawings; and generate simple 3-D drawings. (2-6) 4

DFT 3404 Mechanical Drafting I: Upon completion of this course, students should be able to use drafting equipment an instruments; letter words and numbers in Gothic style; layout geometric constructions; execute orthographic drawings by use of instruments; dimension drawings and apply notes to drawings; reproduce, file, and store drawings; and execute simple "working" drawings. (2-6) 4

***DFT 3405 Mechanical Drafting II:** Upon completion of this course, students should be able to apply orthographic projection principles to more complex drafting problems, including those with various kinds of holes; draw and write specifications for threads; read and draw the conventions of line elimination and revolving out of position; read, draw, and dimension the various kinds of sectional views; and read, draw, and dimension auxiliary views; draw on assembly drawing with parts list; draw views where elliptical and other curved shapes are required.
*Prerequisite: DFT 3404 (2-6) 4

***DFT 3406 Descriptive Geometry:** Upon completion of this course, students should be able to analyze and solve graphically space problems which involve points, lines, and planes and 3-D shapes; verify solutions to problems analytically when appropriate; relate descriptive geometry approaches to engineering design and analysis, and visualize field problems on paper; relate descriptive solution approaches to CAD.
*Prerequisite: DFT 3404. (2-6) 4

DFT 4300 Mechanical Blueprint Reading: Upon completion of this course, students should be able to visualize a three-dimensional object; relate the shape and size correctly and accurately to a pictured object; read and understand drawing conventions, symbols, and notations; interpret the proper operations and shop procedures needed to produce objects shown on simple prints. (3-0) 3

Drama

DRA 1301 Stagecraft: Upon completion of this course, students should have a working knowledge of theater buildings and their equipment, working drawings, and scene shop organization. They will have had practice in scenery construction and painting. Participation on technical crews of the College theater productions required. (1-4) 3

DRA 1303 Acting: Upon completion of this course, students should have acquired practice in developing and controlling the voice, body, and emotions as instruments of expression. Each student will be encouraged to free and use imaginative resources and critical faculties through controlled practice. (1-4) 3

***DRA 1304 Advanced Acting:** A continuation of DRA 1303. Upon completion of this course, students should demonstrate an understanding of more advanced acting theories with special attention given to verse drama, musical theater, and specialized stage movement and exercises.
*Prerequisite: DRA 1303 or consent of instructor. (1-4) 3

DRA 1310 Play Production—One Act: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of one-act plays. The laboratory consists of the rehearsing and performing one-act plays. (0-12) 3

DRA 1311 Play Production—Comedy/Drama: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of a full-length comedy or drama. The laboratory consists of the rehearsing and performing of full-length production of a comedy or drama. (0-12) 3

DRA 1312 Play Production—Musical: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of musicals. The laboratory consists of rehearsing and performing a full-scale production of a musical. (0-12) 3

DRA 1320 Teleplay Production—Drama: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production and post-production phases of a dramatic television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30 to 60 minute dramatic television program. (0-12) 3

DRA 1321 Teleplay Production—Situation Comedy: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a situation comedy television program through a laboratory practicum consisting of the rehearsal, performance and broadcast of a role in a 30 to 60 minute situation comedy television program. (0-12) 3

DRA 1322 Teleplay Production—Action/Adventure: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of an Action/Adventure television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30 to 60 minute action/adventure television program. (0-12) 3

DRA 1323 Teleplay Production—Variety: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production of a variety television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in 30 to 60 minute variety television program. (0-12) 3

DRA 1500 Introduction to Drama: Upon completion of this course, students should develop skills in analyzing the nature of the theater and drama; demonstrate mastery of the principles of play analysis; and demonstrate an understanding of the fundamentals of technical production. (5-0) 5

DRA 1501 Introduction to Broadcasting: Upon completion of this course, students should be able to develop skills in analyzing the elements of television and radio broadcasting by demonstrating a mastery of the history and principles of broadcast system; an understanding of the fundamentals of the technical production of broadcasting; and to formulate a critical response to the broadcast medium in writing and in conversation, demonstrating a knowledge of any manifestation of media as it affects both the individual and society. (5-0) 5

DRA 2204 Special Problems in Drama: An advanced problems course of guided studies involving laboratory and library work. (1-3) 2

DRA 2303 Acting for the Camera: Following completion of this course, students should have acquired practice in acting for television commercials, as well as experience before print photographers, and have a working knowledge of video studio equipment. (1-4) 3

***DRA 2306 Advanced Acting for the Camera:** A continuation of DRA 2303. Upon completion of this course, students should be able to demonstrate an understanding of more advanced camera acting theories; perform in a daytime drama; deliver a newscast; prepare a role in a feature film; and portray a clear character type in a TV or print advertisement.
*Prerequisite 2303 or consent of the instructor. (1-4) 3

DRA 2311 Advanced Play Production—Comedy/Drama: Upon completion of this course, students should have mastered processes of script analysis, role playing of major proportions, and extended rehearsal and performance. Special attention is given to each participant mapping out and completing a strategy for successful final performance before an audience. (0-12) 3

DRA 2312 Advanced Play Production—Musical: Upon completion of this course, students should have demonstrated a thorough knowledge of script analysis, character building, and extended performance of a musical production. Special attention is given to each participant mapping out and completing a strategy for successful performance before an audience. (0-12) 3

DRA 2414 Film Criticism: Through discussion and film screenings, students should be able to develop a critical appreciation for the elements of film, and should be able to formulate a critical response to the film medium in writing and in conversation, demonstrating an intelligent reaction to any film. (3-2) 4

Early Childhood Associate

(See Human Services)

Economics

ECO 2304 Economics I: Upon completion of this course, students should be able to apply economic concepts to basic and current national problems; trace the development of economic philosophies as they relate to traditional, command, and market economics; evaluate the role of federal programs in the areas of GNP, monetary and fiscal policy, and business cycles. (3-0) 3

***ECO 2305 Economics II:** Upon successful completion of this course, students should be able to discuss consumer and business choice by analyzing market demand and supply elasticity; explain the various market structures of pure competition, monopolistic competition, oligopoly and monopoly; and discuss "real world" issues concerning industrial organizations, unions, government antitrust and regulation policy. (3-0) 3

***ECO 2306 Economics III:** This course is designed for the economics students to expand knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to various contemporary problems, i.e., housing, energy, the environment, education, transportation, international trade. Upon successful completion of the course, students should be able to discuss the economic approach to issues mentioned above; discuss international trade, protectionism, foreign exchange and payments; analyze the importance of economic growth and productivity; and explain the problems of the less-developed countries. A research paper is required.
*Prerequisite: ECO 2304 or ECO 2305. (3-0) 3

ECO 3300 Introduction to Economics: This course is designed for students who are interested in a broad overview of economics. Upon completion of this course, students should be able to discuss the various types of economic systems; analyze some of the goals and problems, i.e., unemployment, inflation, and production of our economy; discuss consumer choice by analyzing the concepts of demand supply and elasticity; describe the role of the government in the macroeconomy; describe monetary and fiscal policy; explain business competition, labor markets and unions; and discuss international trade. (3-0) 3

Education

EDU 2500 Introduction to Education: Upon completion of this course, students should demonstrate a knowledge of the development and present status of education in American society, with attention given to the objectives of democratic education and the role of the teacher in their implementation. *(Does not satisfy Social Science requirement.)* (5-0) 5

Engineering Technology

(See Civil)
(See Computer/Electrical/Electronics)
(See Manufacturing Engineering)
(See Mechanical Engineering)

Civil Engineering Technology

CIV 3101 Engineering and Surveying Technology Seminar: Upon successful completion of this course, students should be able to employ the services and personnel available at the College and in the Civil Engineering Technology Program; assess career paths and continuing education opportunities; examine the benefits of membership in professional organizations including the Student Chapter of Associated General Contractors (AGC); evaluate employment practices and needs through guest speakers or panel discussions. (1-0) 1

CIV 3306 Construction Materials and Methods: Upon completion of this course, students should be able to identify construction materials and their physical common building materials; identify types of construction equipment and their application; explain the methods used to assemble building components; and through site visitation, evaluate the actual application of construction techniques. (2-3) 3

***CIV 3314 Structural Drafting I (CAD):** Upon completion of this course, students should be able to explain how a CAD system may be implemented to produce structural drawings; draw a foundation plan and schedule; draw various building components using CAD (poured-in-place concrete, precast concrete, and structural steel); have a working knowledge of how CAD may be implemented for "shop" detail drawings.
*Prerequisite: ARC 3314 or equivalent. (1-6) 3

***CIV 3315 Structural Detailing (CAD):** Upon completion of this course, students should be able to explain how a CAD system may be implemented for Structural "shop" Detail Drawings; explain the modifications which must be made to CAD for structural detailing; using CAD, prepare structural steel "erection" drawings and "shop" drawings; using CAD, prepare Reinforced Concrete Placement Drawings.
*Prerequisite: CIV 4407 (1-6) 3

***CIV 3317 Civil Drafting (CAD)** Upon completion of this course, students should be able to explain how a CAD System can be implemented for civil drafting; learn surveying calculations and mapping by computerized systems; and solve earthwork, hydrology, hydraulics, and highway design problems by implementing CAD Systems.
*Prerequisite: CIV 4407 (1-6) 3

***CIV 3407 Surveying I:** Upon completion of this course, students should be able to measure distances with a surveyor's tape or an electronic distance measuring device; apply geometric principles to correct a taped distance for a standardized measurement; perform the calculations and field operations for differential and profile leveling; use a transit for the measurement of horizontal and vertical angles; calculate bearings and azimuths; and collect data and plot a contour map.
*Corequisites: MAT 3507, ARC 3334. (2-6) 4

***CIV 3414 Statics and Strength of Materials—Basic:** Upon completion of this course, students should be able to apply correct problem-solving procedures to engineering technology problems; understand the basics of forces and moments; draw free-body diagrams to maintain static equilibrium, calculate external forces and reactions; solve for internal forces in trusses and beams; apply the fundamentals of static friction, soil and hydrostatic pressures to problems; become familiar with the microcomputer's usefulness as a problem-solving tool.
*Prerequisite: MAT 3507. (3-3) 4

***CIV 3415 Statics & Strength of Materials—Advanced:** Upon completion of this course, students should be able to identify types of stresses that develop in structures; compute deformation and strain in bodies due to stress systems acting on the body; construct shear and bending moment diagrams of beams; locate centroids of composite areas; compute the rectangular moment of inertia of an area about various axes; solve for bending and shearing stresses in beams, compute the deflection in beams; calculate stresses due to combined axial and bending loads; apply Euler's equatin to columns; analyze and design welded and bolted connections; and use computer programs as an alternate method of problem solving.
*Prerequisite: CIV 3414. (3-3) 4

***CIV 4227 Microcomputer Applications Project:** Upon completion of this course, students should develop or utilize an existing program for a significant Architectural or Civil Engineering Technology application. Projects will be selected by each student from relevant areas after consultation with the course instructor.
*Prerequisites: EDP 3310, CIV 4425. (1-3) 2

***CIV 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and a knowledgeable understanding of careers in Civil Engineering Technology industry; demonstrate results of applied experience to complement class and lab instruction.
*Prerequisites: 45 credit hours earned in residence toward engineering technology degree, and permission of Co-Op office. (0-0-20) 2

***CIV 4285 Cooperative Work Experience II:** A continuation of CIV 4284 Cooperative Work Experience I. Upon completion of this added work period the expectations of Co-op I should be enlarged to derive added benefit from the Civil Engineering Technology industry.
*Prerequisites: CIV 4284 and permission of Co-op Office (0-0-2) 2

***CIV 4300 Codes and Contracts:** Upon completion of this course, students should be able to demonstrate a basic understanding of the N.C. commercial and residential building codes; understand the basic procedures for procuring a building permit and inspection of structures in North Carolina; conduct code reviews for commercial and residential structures; recognize and utilize basic contract terminology and state the basic principles of contractural relationships.
*Prerequisites: CIV 3306, ARC 4200. (2-3) 3

CIV 4302 Plain Concrete & Asphalt: Upon completion of this course, students should be able to describe the characteristics of coarse and fine aggregates, and properties of cement and water suitable for use in Portland Cement Concrete; properties of asphalt and its uses; design a concrete or asphalt mix, based on strength and durability requirements; conduct tests for compressive strength on concrete cylinders and asphalt samples, and flexural strength of beams; understand design of formwork for safe placement of concrete; and observe the actual application of concrete and asphalt construction through site and plant visitation. (1-6) 3

***CIV 4305 Construction Estimates:** Upon completion of this course, students should be able to discuss the various bid terms and contract documents as they affect construction; determine the cost of various equipment and methods necessary for construction; complete quantity take-offs of commercial and residential construction; apply pricing to quantity surveys; and use approximate methods for determination of building costs.
*Prerequisites: ARC 4200, CIV 3306. (2-3) 3

***CIV 4307 Construction Project Management:** Upon completion of this course, students should be able to define the operations comprising a construction project; establish time estimates for each operation; determine the proper sequence of operations and coordination of building trades; discuss principles of scientific management as related to construction; apply manually and using a computer, the critical

path method and bar charts on construction planning and scheduling; understand laws and regulations dealing with the construction industry and deal with claims, disputes, change orders, and quality control.
*Prerequisite: CIV 4305. (2-3) 3

***CIV 4319 Soils Technology:** Upon completion of this course, students should be able to perform and interpret the results of the Atterburg Limits, Standard Proctor, and Unconfined Compression Tests; classify soil according to the Unified and AASHTO Classification Systems; list and describe the techniques of subsurface soil exploration; employ weight/mass and volume relationships; and be knowledgeable of the means of finding shear strength, compression capabilities, and inplace density.
*Prerequisite: CIV 3415. (2-3) 3

***CIV 4320 Principles of Hydraulics:** Upon completion of this course, students should be able to identify various properties of fluids; understand and apply the principles of hydrostatic pressures to practical problems; analyze flow characteristics over weirs; and analyze flow characteristics in open channels.
*Prerequisite: CIV 3414. (2-3) 3

***CIV 4425 Structures I:** Upon completion of this course, students should be able to identify the various types and behavior of structures under load; identify the properties of structural steel relevant to structural design; design typical steel beams, columns, tension members and connections; identify the properties of wood relevant to structural design; design typical wood beams, columns, and connections.
*Prerequisite: CIV 3415. (3-3) 4

***CIV 4426 Structures II:** Upon completion of this course, students should be able to discuss the properties of masonry as it relates to structural design, apply code requirements for the design of masonry structures, discuss the properties of reinforced concrete as it relates to structural design, identify the general requirements for reinforced concrete structures, design reinforced concrete beams and columns, discuss general consideratons of foundation design and behavior, apply reinforced concrete design concepts to the design of shallow bearing foundations.
*Prerequisites: CIV 4425, CIV 4319. (3-3) 4

***CIV 4407 Surveying II—Route Surveying:** Upon completion of this course, students should be able to lay out foundations and give lines and grades for construction of a building; lay out cross-sections of roadways and, from the sections, compute earthwork quantities; calculate and stake out horizontal and vertical roadway curves; apply the methods of lines and grades to a roadway design problem; discuss basic theory of photogrammetry and its application; use the County Register of Deeds Office records to research property records, and state the requirements for filing of property maps and deeds; discuss the legal aspects of surveying based on the N.C. Manual of Practice; and balance interior angles of a closed polygon traverse and determine closure conditions.
*Prerequisite: CIV 3407. (2-6) 4

***CIV 4408 Surveying III—Boundary Surveying:** Upon completion of this course, students should be able to collect data for a closed traverse using a theodolite and an EDM; balance and plot a closed polygon traverse; tie traverse into the State Plane Coordinate System; locate topography within traverse by stadia and use of plane table; compute areas by coordinate method and double meridian distance method; use rectangular coordinates to inverse bearings and lengths; and determine true meridian by solar or polaris observation.
*Prerequisite: CIV 4407. (2-6) 4

Engineering Technology Computer/Electrical/Electronics

ELN 3100 Computer/Electrical/Electronics Seminar: Upon completion of this course, students should have received an orientation to the College, the electrical/electronics programs including the services and personnel available; have explored available electrical/electronic course specialization and associated career path opportunities; have explored the continuing education possibilities, including the bachelor of engineering technology (BET) programs; have explored the benefits of membership in professional organizations, including the student section of IEEE; have heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

***ELN 3404 Electronics I:** Upon completion of this course, students should be able to demonstrate a working knowledge of semiconductor diodes and their application in basic rectifier circuits; design proper DC bias for class A transistor amplifiers; analyze the performance of small signal transistor amplifier circuits using simplified signal models; and analyze the biasing and power efficiency of class B amplifiers.
*Prerequisite: ELN 3515. (3-3) 4

***ELN 3405 Electronics II:** Upon completion of this course, students should be able to utilize opera-

tional amplifier specification data to select and/or determine necessary discrete components and power requirements for common integrated circuit operational amplifier applications; design circuit applications for oscillators, comparators, inverting and noninverting amplifiers, voltage regulators, zero cross detectors, and waveform generators; specify component characteristics and assemble and test controlled power switching circuits and power supply regulators.
*Prerequisite: ELN 3404. (3-3) 4

***ELN 3407 Electrical/Electronic Devices & Controls:** Upon completion of this course, students should be able to demonstrate an understanding of AC and DC electronic circuits; evaluate the performance of motors, transformers and controllers; and construct and diagnose the supporting instrumentation and circuit elements of these devices. (This course is intended for students not enrolled in Computer, Electrical or Electronics Engineering Technology programs.)
*Prerequisite: PHY 1406. (3-3) 4

***ELN 3414 Industrial Instrumentation:** Upon completion of this course, students should be able to specify an appropriate input transducer for interface in an electronic control system for measurement of temperature, pressure, light, et al; specify appropriate output control element requirements and/or device for recording, display, and process control; integrate input and output transducers with electronic signal conditioners (e.g., op-amps) and control systems; interface digital and analog devices with industrial control equipment.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 3514 Basic Electricity (DC):** Upon completion of this course, students should be able to calculate voltage, current, resistance, power, and energy of series, parallel and combinational series-parallel resistive circuits with DC power supplies; calculate equivalent resistance; measure these circuit parameters and verify the results of calculations; properly use laboratory test equipment to measure circuit parameters; interpret passive circuit diagrams and symbols; interconnect components shown on standard circuit diagrams to produce functioning circuits; calculate voltage, current, charge and energy of series, parallel and combinational series-parallel resistive-capacitive-inductive steady state circuits with DC power supplies; calculate equivalent capacitance and inductance; predict the instantaneous values of voltage and current in R-C and R-L circuits given a switch transition in the circuits; calculate instantaneous values of voltage, current, charge, and energy in series R-C and series R-L circuits; and calculate the time constants and settling time for R-C and R-L circuits.
*Corequisite: MAT 3507. (3-6) 5

***ELN 3515 Basic Electricity (AC):** Upon completion of this course, students should be able to select values of R, C and L required to produce any desired voltage, current and impedance in AC circuits; analyze R-L-C series, parallel and combination circuits and draw phasor diagrams representing voltage and current, impedance diagrams representing resistance and reactance; calculate L-C values required in resonant circuits; analyze resonant circuits; correct power factor when required and calculate true power, apparent power and reactive power in AC circuits; and select proper transformers in low frequency circuits for impedance matching, voltage step-up or step-down and test for proper operation in these circuits.
*Prerequisite: ELN 3514; Corequisite: MAT 3508. (3-6) 5

***ELN 4100 Senior Seminar:** Upon successful completion of this course, students should be able to identify and define the various career roles available to the Computer and Electrical/Electronics Engineering Technician; write an acceptable resume; demonstrate satisfactory skills required in the job hunting process.
*Prerequisite: ELN 3405. (1-0) 1

ELN 4254 Laser Technology: Upon completion of this course, students should be able to demonstrate proper safety procedures when operating a laser or a laser system; operate helium-neon and semiconductor lasers; know the principles of lasing, laser design, properties of laser light, laser classification and their characteristics, biological effects of laser radiation and laser safety standards.
*Prerequisite: ELN 3404. (1-3) 2

***ELN 4284 Cooperatve Work Experience:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledge of careers in the Computer/Electrical/Electronics Engineering Technology industry; gain applied experience to complement classes and lab instruction.
*Prerequisite: 45 credit hours earned in residence toward engineering technology degree, and permission of Co-Op Office and COE-3100. (0-0-20) 2

***ELN 4285 Cooperative Work Experience II:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Computer, Electrical, Electronics Engineering Technology Industries; demonstrate results of applied experience to complement class and lab instruction.
*Prerequisites: ELN 4284 and permission of Co-Op Office. (0-0-20) 2

***ELN 4326 Electrical-Electronics Project:** Upon completion of this course, students should be

able to lay out and produce a printed circuit board; install components; test the circuit; and evaluate performance and provide a detailed technical report on the project.
*Prerequisites: ELN 3405, ELN 4464, ENG 3405. (1-6) 3

***ELN 4327 Computer Integrated Systems Project:** Students will develop necessary software to enable use of the microcomputer in a computerized controlled system Electrical or Electronics Engineering Technology application. The software developed must have practical application for the practicing engineering technician. Students will select a project from a relevant area after consultation with the course instructor. Students will provide detailed technical reports on their project.
*Prerequisites: EDP 1407, ELN 4547, COM 3306. (1-6) 3

***ELN 4345 Advanced E/E Topics:** Students will solve a wide variety of problems illustrating advanced applications of Electrical/Electronics principles. Topics may include: microprocessor applications and design, power electronics and control, programmable logic controllers (PLC), medical electronics and advanced communications. Specific topic(s) may vary from quarter to quarter.
*Prerequisites: ELN 3405 and consent of program director. (1-6) 3

***ELN 4401 Planning Electrical Installations:** Upon completion of this course, students should be able to have an understanding and appreciation for the value of the Underwriters Laboratories and the National Electrical Code; use the N.E.C. to determine safe standards for planning electrical installation; plan and calculate lighting and power systems for commercial and industrial installations; estimate and specify commercial and industrial lighting and power systems.
*Prerequisite: ELN 3515. (3-3) 4

***ELN 4414 Introduction to RF Communications:** Upon completion of this course, students should be able to calculate and measure the resonant frequency of various L-C circuit combinations; calculate and measure bandwidth of resonant L-C circuits; draw block diagrams and trace signal of typical AM and FM receivers and transmitters; perform alignment of receiver and transmitter coupling circuits for acceptable performance by using appropriate test and measuring equipment and techniques; perform technical analysis of AM and FM receiver and transmitter circuits as follows: frequency multipliers, small signal and large signal voltage and power amplifiers, oscillators, and AM and FM detectors.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4415 Industrial Programmable Controllers:** This course presents the basic principles and practical applications of Programmable Logic Controllers (PLC's). Upon successful completion of this course, students should be able to convert relay ladder diagrams to PLC programs; design PLC programs for practical industrial applications; utilize peripheral devices such as recorders, input/output modules, CRT, and printers; execute programs in the laboratory controlling the simulated operation of typical industrial control systems.
*Prerequisite: ELN 4417. (3-3) 4

***ELN 4416 Computer Maintenance I:** Upon completion of this course, students should be able to identify and define the various components of a small computer system; show efficiency and proper application of electronic test equipment such as oscilloscope and logic probes in computer systems; demonstrate an understanding of the theory of operation concerning how a microprocessor controls data movement to RAM, ROM, CRT terminal, floppy disk controller and a printer; localize and correct defective components (at the system, board and component levels) in the computer peripheral interface circuitry to terminals and printers; perform preventive maintenance and alignment procedures as specified.
*Prerequisite: ELN 4547. (2-6) 4

***ELN 4427 Digital Circuits I:** Upon completion of this course, students should be able to specify the improvements and advantages that digital circuitry provides in electronic equipment and devices; use binary numbers and codes to perform binary arithmetic; read logic diagrams and use manufacturer's specifications to determine operating characteristics and functions of digital circuits; draw a digital schematic circuit using proper drafting techniques; reduce digital expressions by using laws and theorems of Boolean algebra and Karnaugh maps; implement circuitry using AND, NAND, NOR and inverter gates; utilize R-S and J-K flip-flops as memory devices; use the J-K flip-flop as a building block for the design of counters, storage, and shift registers; and construct and verify the operation of various digital circuits in a laboratory setting.
*Prerequisite: ELN 3404. (3-3) 4

***ELN 4434 Digital Circuits II:** Upon completion of this course, students should be able to utilize decoder circuitry to drive LED's for displaying readouts; use both astable and monostable multivibrators for timing and control of digital circuits; use multiplexer and demultiplexer IC's; demonstrate an understanding of data busing concepts; use digital to analog and analog to digital converters to interface electronic circuitry; implement addressing and movement of data

in RAM and ROM; draw a microprocessor in block diagram form; design and analyze specific computer hardware units such as control unit and arithmetic logic units; design and draw the above circuitry and assemble it using conventional breadboarding and wirewrapping techniques in a laboratory setting.
*Prerequisite: ELN 4417. (3-3) 4

***ELN 4436 System Correction Procedures:** Upon completion of this course, students should be able to diagnose defects in E/E circuits or systems given appropriate diagrams and operational specifications. Students will evaluate in the laboratory their test results on an assigned circuit or system and define repair procedures necesssary to return equipment to a normal operating condition. Test equipment consisting of EVM, ammeter, oscilloscope, signal generators, and frequency counter will be applied to the repair technique.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4437 Computer Integrated Manufacturing Systems:** Upon completion of this course, students should be able to understand robot terminology; classify robots and robotic systems by geometry, power source, application, path control, and intelligence; identify safety precautions necessary in a robotics/automation environment; identify basic end of arm tooling considerations; demonstrate an understanding of the advantages and operation of both open loop and closed loop control systems; design software for teaching and operation of a robot for performance of a specified task; demonstrate an understanding of sensor and system interface requirements between the robot and support hardware; identify, troubleshoot, and correct basic hardware/software problems; design a robot software/hardware project using a computer for control; demonstrate an understanding of basic controller operation; effectively use wiring diagrams and maintenance manuals in isolating and debugging system problems.
*Prerequisites: ELN 4547, EDP 1407. (3-3) 4

***ELN 4444 Network Analysis:** Upon completion of this course, students should be able to determine series and parallel equivalent circuits; simplify DC and AC circuits to Thevenin's and Norton's equivalent; calculate electrical properties of DC and AC network circuits using superposition, mesh and nodal analysis; transform delta equivalent circuits to wye and wye to delta; and experimentally prove the above in the laboratory.
*Prerequisites: ELN 3515, MAT 3508. (3-3) 4

***ELN 4454 Data & Computer Communications I:** Upon completion of this course, students should be able to demonstrate efficiency in asynchronous, bisynchronous and synchronous transmission techniques; parallel and serial transmission; general characteristics of UART and USART interfaces; identify methods of generating 20 milliamp current; optical couplers; line drivers and repeaters; 2-wire and 4-wire conditioning, calculation of DB levels; demonstrate an understanding of RS232 standards, EIA, CCITT, RS422, and RS423; clock distortion, bias, attenuation, echo suppression; frequency spectrum and error detection techniques; exhibit proficiency in time and frequency multiplexing; packet, block message and bit switching; identify modem types and define simplex, half duplex, full duplex, half duplex supervisory and half duplex reverse channel; demonstrate the differences in parity checking, cyclic redundancy, longitudinal redundancy, barber pole, and block check character; and explain remote job entry, high level data link control (HDLC); synchhronous data link control (SDLC); perform calculations of speed versus distance performance curves.
*Prerequisites: EDP 1407, ELN 4418, ELN 4547. (3-3) 4

***ELN 4455 Data & Computer Communications II:** Upon completion of this course, students should be able to explain the concepts of channel sharing networks; explain the differences between narrow, voice grade, and wide band speed categories; show the uses and operation of point-to-point, multipoint, and multilink systems; list the differences in and advantages of message and packet switching; identify and define the theory and operation of local area networks; demonstrate the differences in line control of asynchronous and synchronous lines; use batch, terminal clusters, and point-of-sale terminals; use and write basic software functions to initiate and control, assemble, and edit messages, code conversion, scan or poll on a line, priority schedule and line queues.
*Prerequisite: ELN 4454. (3-3) 4

***ELN 4456 Local Area Networks:** Upon completion of this course, students should be able to define the characteristics of a local area network (LAN); install and maintain a LAN; measure LAN performance using software and instrumentation; interconnect LANS.
*Prerequisites: EDP 3310, EDP 1407; Corequisite: ELN 3404. (3-3) 4

***ELN 4464 Electronic Circuit Design (CAD) I:** Upon completion of this course, students should be able to demonstrate an understanding of the graphic language of CAD; identify the components of a CAD system; have a working knowledge of basic commands; draw elements of drawings such as lines, circles, arcs, curves, etc.; draw basic electrical/electronic circuits, including: schematic diagrams, wiring diagrams, and printed circuit layout; use a plotter to prepare an acetate layout ready for exposure.
*Corequisite: ELN 3404. (2-6) 4

***ELN 4465 Electronic Circuit Design (CAD) II:** This course is a continuation of ELN 4464. Upon completion of this course, students should be able to identify existing library symbols and create new figures as needed; create schematic diagrams using stored symbols and connecting them together assigning all pin numbers, reference designators, values, and part numbers; create printed circuit board outline and place components on the board; merge the information from the schematic and printed circuit board files so that all connecting nodes are correctly identified; use the automatic routing feature to make the required connections among components to complete the design and layout of a complex electronic circuit.
*Prerequisite: ELN 4464. (2-6) 4

***ELN 4468 Advanced Microprocessors:** Upon completion of this course, students should be able to write software for a 16/32 bit microprocessor with the aid of an editor, assembler and simulator; test and debug software with the aid of a smilulator; interface I/O devices to the microprocessor system.
*Prerequisite: ELN 4547. (3-3) 4

***ELN 4474 Electro Optics:** Upon completion of this course, students should be able to understand the fundamentals of operation and circuit applications for optical electronic devices, including displays, optocouplers, photodiodes, phototransistors, detectors, and photovoltaic cells; use electro optic components for control and data transmission; evaluate system performance parameters, including supply voltage, drivers, multiplexing, strobing, spectral peak wavelength, and aging problems.
*Prerequisite: ELN 3405. (3-3) 4

ELN 4475 Fiber Optics: Upon completion of this course, students should be able to specify the advantages that optical fibers provide over conventional cables; define fiber types and mode characteristics; couple light sources into fibers; prepare and inspect fiber ends; splice fiber and install connectors; measure numerical aperture and attenuation; use an Optical Time Domain Reflectometer to measure fiber length and to locate anomalies; use fiber optics in a communication link utilizing wavelength division multiplexing/demultiplexing; and use fiber optic interferometric sensors to measure temperature and pressure in a laborator setting.
*Prerequisite: ELN 3405. (3-3) 4

ELN 4485 Microwave Communications: Upon completion of this course, students should be able to recognize and apply microwave devices and components; select microwave transmission lines and matching devices; tune microwave cavities; select and apply microwave solid state and vacuum tube devices; produce and understand a block diagram of a microwave receiver; and perform accurate microwave power measurements.
*Prerequisite: ELN 3405 (3-3) 4

***ELN 4505 Power Electronics:** Upon completion of this course, students should be able to perform basic circuit design, select components, breadboard in the lab, and evaluate operational performance of the following industrial electronic circuits: industrial rectifiers, thyristor phase shift control, electronic DC motor control, switching transistor power control, variable frequency AC motor control.
*Prerequisites: ELN 4525, ELN 3405. (3-6) 5

***ELN 4525 Electrical Machines I:** Upon completion of this course, students should be able to specify the factors required to induce a voltage and develop force in simple generators and motors; show visually the physical relation and polarities of the above factors; calculate induced voltage in generators; calculate developed force and torque in motors; calculate the electrical quantities of current, voltage, power, power factor, phase angle, voltage regulation, efficiency and the physical quantities of torque, speed and horsepower for: DC generators, DC motors, transformers, alternators, three-phase motors, single-phase motors; and select and wire motors, generators, transformers, meters, and loads in the laboratory as required to obtain operational data and evaluate performance of the above.
*Prerequisite: ELN 3515; Corequisite: PHY 1404.
(3-6) 5

***ELN 4526 Electrical Machines II:** Upon completion of this course, students should be able to analyze and evaluate the electrical and mechanical characteristics of synchronous motors; alternators in parallel; three-phase transformers; autotransformers; perform motor, generator and transformer efficiency evaluations, and compute efficiencies at various operating loads; determine, select and evaluate overload and short circuit protective devices for optimum motor protection; design and evaluate performance of various AC and DC motor control circuits; conduct laboratory experimentation as required to obtain operational data and evaluate performance of the above devices and circuits.
*Prerequisite: ELN 4525. (3-6) 5

***ELN 4547 Microprocessors I:** Upon completion of this course, students should be able to utilize a microprocessor-based system for digital control and monitoring; interpret specifications and characteristics of the integrated circuitry associated with a microprocessor, including RAM, ROM, PROM; demonstrate the application of peripheral devices which interface with a

microprocessor; interpret machine instructions and trace their execution through a typical system; write programs using both machine and assembly language; execute and debug programs using individual microcomputer systems.
*Prerequisites: ELN 4417, EDP 1407. (3-6) 5

***ELN 4557 Microprocessors II:** A continuation of ELN 4547. Upon completion of this course, students should be able to design a monitor program for a microprocessor-based system; write the necessary software with the aid of an editor and assembler; design appropriate I/O interfacing; debug, test, and document the microcomputer system.
*Prerequisite: ELN 4547. (3-6) 5

***ELN 4567 Microcomputer System Design:** Upon completion of this course, students should be able to design a microprocessor-based system; interface memory to the microcomputer system; interface peripheral devices to the microcomputer system; construct a working system; use a logic analyzer to test and debug the system.
*Prerequisite: ELN 4547. (3-6) 5

Engineering Technology - see ARC, CIV, DFT, ELN, ISC, or MEC

Manufacturing Engineering Technology

ISC 3301 Engineering Economic Analysis: Upon completion of this course, students should be able to state the concepts of engineeing economic analysis; construct cash flow diagrams, evaluate different economic alternatives; discuss fixed, increment and sunk cost, depreciation and capitalized cost; make economic choices using methods of present worth, equivalent uniform annual cost, and MARR; perform replacement/retirement and breakeven analysis; discuss value analysis and the effect of taxation on economic decisions. (2-3) 3

***ISC 3314 Computer-Assisted-Manufacturing (CAM)** Upon completion of this course, students should be able to identify the components of a CAM system and define their use; use standard machine tool language and APT II to describe the geometry of machine parts; use a common database for automatic programming of simple parts; manually program basic two and three dimensional machining operations; discuss the advantages of flexible manufacturing processes; and determine the tooling required for each machining process.
*Prerequisite: DFT 3316. (1-6) 3

ISC 33xx Introduction to CIM: Upon completion of this course, the students will be able to enumerate and explain the major components of CIM, such as Statistical Process Control, Manufacturing Automation Proctocal computer Aided Design, Numerical control, Robots, Process Planning, and the steps involved in implementing CIM. (3-0) 3

***ISC 4305 Plant Layout and Materials Handling:** Upon completion of this course, students should be able to explain the three types of classic layouts; design a plant layout, based on the following: size, physical and chemical characteristics, quantity and variety of parts, products and materials, the nature, size and quantity of machines and equipment, the worker, waiting and service factor, office and employee facilities; select the proper fixed and nonfixed floor and overhead materials handling equipment, to move materials and products efficiently and economically.
*Prerequisite: DFT 3404, MEC 3405 or departmental permission. (2-3) 3

***ISC 4307 Introduction to Robotics:** Upon completion of this course, students should be able to describe the function of industrial robots; identify the main components of robots; understand the principles of operation of the following robotic controls; hydraulic, pneumatic, electrical/electronics; analyze the motion of the robot arm; explain the basic concepts, components, and application of servo systems; program robots to perform selected operations; maintain, servic and troubleshoot hydraulic, pneumatic and mechanical robotic equipment.
*Prerequisite: EDP 3310 or EDP 3405 or departmental permission. (2-3) 3

***ISC 4308 Robotics/Automaton:** Upon completion of this course, students should be able to describe and select industrial robots for typical automated manufacturing applications; design and program a typical robotic pick and place application; understand concepts of robotic/automation work cells, Flexible Manufacturing systems (FMS), Computer Assisted Manufacturing (CAM), and hard automaton; identify and justify the most economical system above for a specific manufacturing process; identify components of work cells, FMS and hard automation; and identify manufacturing processes for increasing productivity through the application of automated manufacturing technology.
*Prerequisite: ISC 4307 or department permission. (2-3) 3

***ISC 4314 Inspection and Quality Control:** Upon completion of this course, students should be able to use non-precision measuring instruments; use precision measuring instruments; use comparison

measuring instruments; use guages, gate blocks, surfaces plates and precision angular measuring instruments; use destructive and nondestructive testing methods to find the physical and mechanical properties of engineering materials; and use statistical methods of quality control.
*Prerequisites: MAT 3507, MEC 3405 or departmental permission. (2-3) 3

***ISC 4316 Process Planning:** Upon completion of this course, students should be able to perform a dimensional and tolerance analysis of a product print, using tolerance charts; select and plan the process of manufacture and its sequence; and select the machine tool, standard and special equipment and tooling for the most economical manufacturing process.
*Prerequisites: DFT 3404, MEC 3405 or departmental permission. (2-3) 3

ISC 4400 Time and Motion Study: Upon completion of this course, students should be able to apply the general problem solving process to work methods design; construct activity charts, human and machine charts; apply the principles of motion economy as related to the use of human body, the work place and the design of tools and equipment; conduct a time study, determine the rating factor and allowances and develop a time standard; use the MTM method to determine time standards; and conduct work sampling.
*Prerequisite: Departmental permission. (2-6) 4

(Also see Mechanical Engineering Technology for other course descriptions.)

Mechanical Engineering Technology

MEC 3101 Mechanical/Manufacturing Seminar: Upon successful completion of this course, students will have received an orientation to the College, the mechanical/manufacturing programs, including the services and personnel available; have explored available mechanical/manufacturing course specializations and associated career path opportunities; have explored the continuing education possibilities, including the Bachelor of Engineering Technology (BET) programs; have explored the benefits of membership in professional organizations, including the student section of SME; have heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

MEC 3404 Manufacturing Processes I: Upon completion of this course, students should be able to describe the different methods of metal casting and their fields of application; discuss the production and uses of powder metal products; describe the different methods of hot and cold metal forming and their use; explain the different types of welding methods and their fields of application; enumerate some other joining processes, such as blazing, soldering, mechanical fastening, etc., and specify their proper field of use; and predict and identify potential problems related to the above basic manufacturing processes. (3-3) 4

***MEC 3405 Manufacturing Processes II:** Upon completion of this course, students should be able to discuss standards of measurements, use precision and non-precision measuring devices; explain the difference between accuracy and precision; understand and use the priniciples of metal cutting theory as related to tool geometry, machinability, surface finish, coolants and lubricants and choice of cutting tool materials; describe the construction and use of the lathe family of machine tools, and the various types of drill presses and milling machines; describe the abrasive machining processes and the characteristics of grinding machines; identify and describe several non-traditional machining methods; and enumerate thread cutting and gear making processes and machinery.
*Prerequisites: MEC 3404, MAC 3201. (3-3) 4

MEC 3524 Mechanics of Materials: Upon completion of this course, students should be able to identify and calculate simple stresses; compute the deformation and strain due to axial and shearing stresses; construct shear and moment diagrams; calculate stresses in beams and deflection of beams; compute stresses due to combined loading; analyze and design welded, bolted, and riveted connections; and calculate the load carrying capacities of long and intermediate columns.
*Prerequisites: MAT 3508, MEC 4508. (3-6) 5

***MEC 4284 Cooperative Work Experience:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Mechanical and Manufacturing Engineering Technology industry; gain applied experience to compliment classes and lab instruction.
*Prerequisites: 45 credit hours earned in residence toward engineering technology degree, permission of Co-Op office, COE 3100. (0-0-20) 2

MEC 4285 Cooperative Work Experience II: Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the

Mechanical and Manufacturing Engineering Industries; demonstrate results of applied experience to compliment class and lab instruction.
*Prerequisites: MEC 4284, permission of Co-Op office. (0-0-20) 2

*__MEC 4402 Machine Design:__ Upon completion of this course, students should be able to design machine parts on the basis of function and strength of material calculations, such as: fasteners, permanent joints, shafts and couplings, plain bearings, ball and roller bearings, belts and chains, gears, clutches and brakes, and springs; select machine parts for a particular machine function by use of manufacturers' catalogs, manuals, and periodicals; and complete a design project.
*Prerequisites: DFT 3404, MEC 3524, MEC 4405. (3-3) 4

__MEC 4403 Engineering Materials:__ Upon completion of this course students should be able to enumerate basic manufacturing processes and define physical and mechanical properties of materials; perform and evaluate standard tests such as tensile, impact, hardness, etc.; discuss the structure of metals, characteristics of metals, the effect of heat treating on ferrous metals; describe the production and properties of ferrous and non-ferrous metals; explain the various heat treatment processes, the equipment used and perform simple heat treatment processes; describe the properties of thermosetting and thermoplastic polymers and ceramic and composite materials; and discuss material selection on the basis of specific properties. (3-3) 4

*__MEC 4404 Tool and Die Design__ Upon completion of this course, a study of the knowledge and skills needed for the design of tools, fixtures, and dies, students should be able to design simple point and multiple point cutting tools; design and draw jigs and fixtures; design piercing and blanking dies; design bending and forming dies; and complete a design project.
*Prerequisites: DFT 3404, MEC 3524. (2-6) 4

*__MEC 4405 Mechanisms:__ Upon completion of this course, students should be able to solve by graphical methods, and check by analytical methods, problems concerning the motion of machine elements; including the displacement, velocity and acceleration of points and lines within these elements; design the motion scheme part of Machine Design by graphical methods of cams, belts, pulleys, gears and linkages.
*Prerequisites: DFT 3404, MEC 4508. (3-3) 4

*__MEC 4425 Thermodynamics:__ Upon completion of this course, students should be able to explain the basic laws of thermodynamics; define the technical terms used in thermodynamics; write in both word and algebraic form the general energy equations; use these equations for solving typical problems; work typical problems using both the English and S.I. unit systems.
*Prerequisites: PHY 1405, MAT 3508. (3-3) 4

*__MEC 4434 Hydraulics and Pneumatics:__ Upon successful completion of this course, students should be able to perform certain computations related to hydrostatics, hydrodynamics, and the general gas law; draw hydraulic symbols; make sketches of and explain how the following hydraulic and pneumatic system components work: fluid power pumps and motors, hydraulic cylinders and rams, fluid reservoirs, plumbing and related components, pressure, flow and directional control valves; design and troubleshoot simple hydraulic circuits.
*Prerequisite: PHY 1405 or program director approval. (3-3) 4

*__MEC 4508 Applied Mechanics:__ Upon successful completion of this course, students should be able to solve problems pertaining to force systems; calculate the location of centroids and centers of gravity; draw free-body diagrams; analyze forces in simple trusses and frames; calculate friction; compute the moment of inertia of areas and bodies; construct shear and moment diagrams; solve problems related to the kinetics of particles and rigid bodies; apply the laws of force and motion; and perform calculations related to work energy and power.
*Prerequisites: PHY 1405, MAT 3508. (3-6) 5

__MEC 5214 Practical Metallurgy I:__ Upon completion of this course, students should be able to describe the production of iron and steel; discuss the major forming methods; explain the crystalline nature of metals; discuss basic testing procedures; describe the method and use of heat treating; perform hardness and tensile tests; and produce a metallographic sample. (Note: Does not satisfy degree requirements for Manufacturing or Mechanical Engineering Technology. Engineering Technology students, see MEC 4403). (1-3) 2

*__MEC 5215 Practical Metallurgy II:__ Upon completion of this course students should be able to describe the method of classifying steel; discuss the properties and use of cast irons; explain the importance of metallurgy on welding; describe the production and use of powder metal and nonferrous metals; perform simple heat treatments on plain carbon steel; and identify unmarked materials.
*Prerequisite: MEC 5214. (Note: Does not satisfy degree requirements for Manufacturing or Mechanical Engineering Technology. Engineering Technology students, see MEC 4403). (1-3) 2

Electrical Installation and Maintenance

ELC 5200 Electrical and Building Trades Blueprint Reading: Upon completion of this course, students should be able to interpret schematics and blueprints applicable to electrical installation; draw floor plans and indicate the electrical outlets as required by the National Electrical Code; read sectional views; explain specifications related to the building trades; discuss the types of materials used in construction trades; determine branch circuit sizing for lighting, motors, and electrical equipment; explain three-phase and single-phase services. (1-2) 2

***ELC 5296 Electrical Installation and Maintenance Co-Op:** Upon completion of this course, students should be able to apply the skills acquired in electrical installation and maintenance courses to actual working situations in the electrical installation and maintenance industry; produce a worklog sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisites: Minimum of two quarters of Electrical Installation and Maintenance Program courses.
(0-20) 2

***ELC 5302 Instrumentation:** Upon completion of this course, students should be able to discuss basic industrial instrumentation when applied to temperature, pressure, level, flow, humidity transmission and control; apply instrumentation theory; adjust and calibrate instrumentation devices.
*Prerequisites: ELC 5901. (2-3) 3

ELC 5310 Electrical Schematics: Upon completion of this course, students should be able to identify symbols and abbreviations used in control circuits; draw one-line diagrams illustrating power and branch circuits; change a wiring diagram into a ladder diagram; describe how disconnects, overcurrent protection, overload relays, control devices, and motors are used in control circuits and how each is represented on a schematic. (2-3) 3

ELC 5400 Direct Current: Upon completion of this course, students should be able to describe the electrical structure of matter and electron theory; demonstrate a knowledge of the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits; demonstrate a working knowledge of Ohm's Law and Kirchoff's Law; describe the sources of direct current voltage potentials; analyze electrical circuits using appropriate instruments and schematic diagrams. (2-6) 4

ELC 5401 Basic Calculations for Electricians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication and division to problems related to the electrician's trade; calculate ratio and proportion; manipulate fractional and decimal numbers; use algebraic equations to solve problems encountered in the electrical field; understand trigonometric functions and their application to right angles; describe vectors and their use in alternating current applications. (4-0) 4

***ELC 5402 Alternating Current:** Upon completion of this course, students should be able to explain how electrical properties such as capacitance, inductance, voltage, amperage and resistance affect the circuit; list and describe the use of test instruments and how they are connected in a circuit; describe the principle of magnetism and electromagnetism; calculate the value of RMS, average, or peak-to-peak voltages for alternating current.
*Prerequisite: ELC 5400. (2-6) 4

***ELC 5403 Commercial and Industrial Wiring II:** Upon completion of this course, students should be able to plan and lay out wiring systems in industrial complexes; install bus duct and underfloor duct systems; install motors and auxiliary devices and perform maintenance on all systems.
*Prerequisite: ELC 5404. (2-6) 4

ELC 5404 Commercial and Industrial Wiring I: Upon completion of this course, students should be able to plan and lay out wiring systems in commercial complexes; install service and feeders using metallic and non-metallic conduit and wires; install panelboards and switchboards; perform maintenance on all systems, and describe causes of electrical energy waste and methods to improve operating efficiency. (2-6) 4

ELC 5410 Residential Wiring I: Upon completion of this course, students should be able to read prints related to the installation of electrical wiring and components in residences; plan, lay out and install wiring and electrical components in residential applications; become familiar with electrical devices, raceways, conductors, and boxes; state the National Electrical Code regulations for typical residential applications. (3-3) 4

***ELC 5411 Industrial Electronics:** Upon completion of this course, students should be able to describe the fundamentals, operating characteristics and application of solid state devices, electronic theory as it applies to circuit protective devices, relays, limit switches and sensing devices; describe electro-

mechanical logic; disassemble, replace parts and reassemble electro-mechanical devices.
*Prerequisite: ELC 5402. (2-4) 4

***ELC 5425 Residential Wiring II:** Upon completion of this course, students should be able to read prints to determine types of circuits used and determine where they are located; determine size of wiring required for special circuits; compute service-entrance conductor size; compute raceways and conductor sizes, install wiring for heating and air-conditioning equipment; state the National Electrical Code regulations as they pertain to residential applications.
*Prerequisite: ELC 5410. (2-6) 4

***ELC 5426 Programmable Controllers I:** Upon completion of this course, students should be able to change decimal numbers into binary; octal, binary coded octal, or hexadecimal values; demonstrate various types of logic circuits and their truth tables; program programmable controllers for simple commands; describe AND, NAND, OR, NOR, and NOT logic; calculate the outcome of combining different types of logic.
*Prerequisite: ELC 5901. (2-6) 4

***ELC 5427 Programmable Controllers II:** Upon completion of this course, students should be able to install input/output devices to the processor; describe how programmable controllers are used to control circuits without the use of external timers, counters, relays, and other electrical devices; explain the use of analog to digital and digital to analog converters; program complex circuits.
*Prerequisite: ELC 5426. (2-6) 4

ELC 5450 Machines and Controls I: Upon completion of this course, students should be able to describe the fundamental concepts in single-phase and poly-phase alternating current circuits; list symbols and abbreviations relating to motor controls; explain the use of transformers and their connections for particular applications; wire basic control circuits; identify types and disassemble and assemble contactors and motor starters. (2-6) 4

***ELC 5455 Machines and Controls II:** Upon completion of this course, students should be able to describe the difference in single-phase motors and three-phase motors; explain how a direct current motor operates; change motor rotation; use time-delay relays, counters, timers, limit switches, pressure switches, and other control devices in control circuits; list reasons for preventive maintenance.
*Prerequisite: ELC 5450. (2-6) 4

***ELC 5510 Industrial Electronics:** Upon completion of this course, students should be able to describe the fundamentals, operating characteristics and application of solid state devices, electronic theory as it applies to circuit protective devices, relays, limit switches and sensing devices; describe electro-mechanical logic; disassemble, replace parts and reassemble electro-mechanical devices.
*Prerequisite: ELC 5901. (3-4) 5

English—Literature

†*Satifies Humanities Requirement.*
See also, HUMANITIES.

ENG 1301 Writers, Revolutionaries, and Big Brother: Upon completion of this course, students should have read selected novels and essays about radical attempts in the 20th Century to change the social order while resisting totalitarianism. They should also be able to state the consequences of the revolutionary upheavals between the two World Wars as seen through the fiction and non-fiction of Orwell, Koestler, and Malraux. (3-0) 3

ENG 1330 Women's Images in Fiction: This is a course designed to develop an awareness and understanding of women's changing roles in society as portrayed in fiction. Upon completion, students should demonstrate a knowledge of the development of women's social roles during the nineteenth and twentieth centuries through novelists' and short story writers' portraits of women. (3-0) 3

ENG 1333 Science Fiction: In this course, science fiction is studied in historical perspective. Upon completion of the course, students should be able to differentiate between science fiction and other literary genres; trace the themes and development of science fiction; recognize the influence of science fiction on contemporary culture. (3-0) 3

ENG 1334 The Novel: In this course, five works selected from American, British, French, Russian and Spanish literature are studied. Upon completion, students should have an understanding of the novel as a literary genre and a knowledge of the cultural tradition out of which each work emerged; be able to differentiate between the literary methods and techniques of the respective writers; have discovered the novel as a representation of life. (3-0) 3

ENG 1335 Classic Fairy Tales: This course is designed to explore the fairy tale as a literary art form with distinct archetypal patterns. Upon completion, students should be able to analyze fairy tales from a structural, social, psychological, and archetypal perspective. (3-0) 3

***ENG 2314 Contemporary Fiction:** This course is a study of writers who have published distinguished fiction since 1945. Upon completion, students should have studied selected works of these writers; recognize philosophical, ethnic, regional, and stylistic trends reflected in the literature; have greater competence in analyzing literature.
*Prerequisite: ENG 1505 or consent of department head. (3-0) 3

***ENG 2320 Special Topics:** This is an advanced course in which students and the instructor select a topic for in-depth study.
*Prerequisite: Approval of the supervisory instructor and the department head. (3-0) 3

***ENG 2324 The Bible as Literature:** This course is a study of selected portions of the Bible. Upon completion, students should recognize the Bible as literature, containing myth, legend, saga, lyric poetry, drama, short story, and biography; be able to identify Judeo-Christian ideas as they are reflected in the material studied; be able to state changes in concepts and values during the span of Biblical history.
*Prerequisite: ENG 1505 or consent of department head. (3-0) 3

***ENG 2504 British Literature, 1300-1800:** This course is a study of selected works of British writers before 1800, with emphasis on Chaucer, Shakespeare, and Milton. Upon completion of this course, students should be familiar with selected works of the writers of the period; have an awareness of the development of the English language and of literary trends during the period; be able to analyze the literature read in terms of form and content.
*Prerequisite: ENG 1505 or consent of department head. (5-0) 5

***ENG 2505 British Literature, 1800-Present:** This course is a study of selected works of British writers since 1800, including Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, Tennyson, Eliot, Conrad, Shaw, Hardy, and Yeats. Upon completion, students should be familiar with selected works of the writers studied; be able to characterize romantic, Victorian, and modern British literature; be able to analyze the literature read in terms of form and content.
*Prerequisite: ENG 1505 or consent of department head. (5-0) 5

***ENG 2514 American Literature, 1800-1900:** This course is a study of selected works of American writers before 1900, with emphasis on Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, Twain, and Dickinson. Upon completion, students should have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers and to show greater competence in interpreting, analyzing, and evaluating literature, and in discerning meanings and ideas in literature.
*Prerequisite: ENG 1505 or consent of department head. (5-0) 5

***ENG 2515 American Literature, Modern:** This course is a study of selected works of major American writers, including Crane, James, Robinson, Frost, O'Neill, Anderson, Dreiser, Hemingway, Wolfe, Faulkner, Fitzgerald, and Bellow, with emphasis on their interpretations of the modern era. Upon completion, students should have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers; be able to show greater competence in interpreting, analyzing, and evaluating literature; and in discerning meanings and ideas in literature.
*Prerequisite: ENG 1505 or consent of department head. (5-0) 5

English—Writing

ENG 1300 New Writing: Upon completion of this course, students should know the ethics of journalism and the basic press law with respect to libel and privacy; be able to use the information gathering process to write and edit news stories for print media; analyze the publisher-editor-writer-audience relationship. (2-3) 3

***ENG 1504 English Composition I:** This course deals with the development and improvement of thinking skills and the effective use of language, particularly in writing multi-paragraph assignments. Upon completion of this course, students should be able to recognize and use such logical processes as causation, comparison-contrast, classification, and analysis. They should also be able to evaluate and revise their own writing.
*Prerequisite: Approved placement examination score, successful completion of ENG 9510, or consent of department head. (5-0) 5

***ENG 1505 English Composition II:** This course is designed to provide students with opportunities to develop critical thinking skills which will be used in interpreting and writing analytical compositions about short prose and either drama or poetry. Upon completion of this course, students should be able to write critically and objectively, and to use basic research techniques to write a formally documented research paper. (5-0) 5

ENG 1324 Creative Writing: This course is designed to provide students with the opportunity to practice the craft of writing, to find pleasure in writing as a means of self-expression, and to explore techniques which aid in sharpening their writing styles. Emphasis is placed on the basic elements of fiction and poetry. Students' writings are read and analyzed in class. (3-0) 3

***ENG 1325 Advanced Creative Writing:** For students with creative work already in progress, this course probes the practical aspects of technique, style, and development with an emphasis on the short story and poetry. Students' writings are analyzed in class. Attention is given to the process of revision— of refining and shaping the work into a polished form.
*Prerequisite: ENG 1324 or consent of department head. (3-0) 3

ENG 2308 Report Writing: Students who complete this course should be able to design and implement procedures for gathering, analyzing, and refining data, and to use formal documentation and multiple resources to prepare a formal report pertaining to their chosen program or field of study. (3-0) 3

***ENG 2390 Individual Study:** This course provides students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the department. Objectives will be determined by the student and the sponsoring instructor.
*Prerequisite: Approval of the sponsoring instructor and the department head. (3-0) 3

***ENG 3301 Writing for Law Enforcement:** Upon completion of this course, students should be able to spell and define vocabulary commonly used in police reporting. They should also be able to write a grammatically and mechanically correct report based on appropriate field notes, which consists of a precise, objective narration using accepted law enforcement forms and formats.
*Corequisite: Acceptance into Charlotte Police Academy. (3-0) 3

***ENG 3405 Technical English II:** Upon completion of this course, students should be able to prepare various types of business communications including letters and memoranda. They should also be able to use multiple resources and research techniques to prepare informal reports related to their chosen programs, and to produce other related communications including definitions, descriptions of mechanisms, processes and abstracts.
*Prerequisite: ENG 1504 or consent of department head. (4-0) 4

ENG 3515 Advanced Grammar: Upon completion of this course, students should be able to identify constructions, forms, and usages of words and the relationship of words within a sentence. They should also be able to compose sentences according to given structural patterns and to apply basic rules of grammar. (5-0) 5

***ENG 4324 Copywriting I:** In this course, students will learn the basics of writing effective copy for print media (newspapers and magazines). They will produce copy and layouts, and be able to fit copy using appropriate type specifications.
*Prerequisite: ENG 1504 or consent of department head. (3-0) 3

***ENG 4325 Copywriting II:** In this course, students will apply copywriting basics to produce copy for broadcast media (radio and television) and outdoor advertising in appropriate formats to include storyboard for television.
*Prerequisite: ENG 4324 or consent of department head. (3-0) 3

ENG 5500 Communications Skills: Upon completion of this course, students should be able to spell and define words directly related to their technical or trade areas; write job-related letters and a personal resume; discuss a given topic both orally and in writing; demonstrate familiarity with periodicals in the student's trade field. (5-0) 5

English— Advancement Studies

ENG 9500 Learning to Write: This is an individualized self-paced course, composed of an introduction to writing techniques, grammar labs, introduction to the use of Word Processors, helping groups, sentence combining, and discovering and improving the student's writing process. The course is designed to meet the needs of students who lack the necessary English grammar background to express themselves in sentences. When students have completed ENG 9500, they should be able to write clear, concise, and correctly punctuated sentences both in singular sentence form and within paragraphs. (5-5) 5

ENG 9505 Spelling and Vocabulary: This is an individualized self-paced course designed to help teach students how to pronounce speech sounds, how to pronounce words, and how to spell. The course consists of the study of speech sounds, their common spellings and production, a study of spelling rules, and a vocabulary study which is relevant to the student's program. At the completion of ENG 9505, a student's spelling, pronunciation, and vocabulary of standard English should improve with careful study and practice exercises. (5-0) 5

ENG 9507 Speaking Better English: Upon successful completion of this course, students will analyze their own language patterns and diction; recognize the effects of geographical area and cultural origin on language, speech variations, and vocabulary; participate in role playing and improvisation; learn to make appropriate language choices; and develop increased confidence in oral communication skills. (5-0) 5

***ENG 9510 Fundamentals of Writing:** This is an individualized self-paced course designed to meet the needs of students who are preparing to enter college transfer, technical or communication courses. However, any student may enroll in the course. Upon completion of ENG 9510, students should be able to demonstrate that they have developed effective communication skills by writing and proofreading paragraphs and themes.
*Prerequisite: ENG 9500 or Prentice-Hall Test. (5-0) 5

English as a Second Language

(See also LEP.)

***ESL 9201 Reading I** This course introduces non-native speakers of English to reading English through the use of short, simple passages. Upon completion, students should be able to identify main ideas and locate details in short articles using basic vocabulary. (2-0) 2

ESL 9301 English Through Music: The purpose of this course is to acquaint the non-English student with standard American pronunciation and to improve expression, intonation, and vocabulary by using music and the International Phonetic Alphabet. Upon completion of this course, students should be able to demonstrate evidence of improved pronunciation and vocabulary, self-confidence, and cultural adjustment. (3-0) 3

***ESL 9303 Reading II:** This course is designed to introduce international students to different facets of life in the United States through reading. Informal class discussion should help students better understand the reasons for the actions and attitudes of US citizens which they read about. Upon completion, students should be able to compare and contrast aspects of life in their native countries with life in the United States.
*Prerequisite: Reading I, placement, or departmental consent. (3-0) 3

***ESL 9306 Reading III:** This is a high intermediate reading course for non-native speakers of English. Upon completion, students should be able to recognize several basic patterns of organization in English on a paragraph and composition level; identify main ideas, make inferences and draw conclusions; guess word meanings from context; skim and scan for information and overview; and answer short-answer questions on familiar materials.
*Prerequisite: Reading II, placement, or departmental consent. (3-0) 3

ESL 9310 English Handwriting: This course is designed to teach cursive English handwriting to non-English speaking persons. Upon completion of this course, students should be able to write legibly both in cursive and manuscript forms, recognize all the letters of the alphabet, and identify common sound-symbol correspondences. (3-0) 3

ESL 9504 Conversational English I: This course is designed to provide the non-English speaking person with the basic English language skills to meet essential communication needs; that is, to provide the foreign student with survival English. Upon completion of this course, students should be able to ask and answer simple questions using English vocabulary learned in the course. (3-4) 5

***ESL 9505 Conversational English II:** This is an intermediate level conservation course designed to help non-native speakers of English overcome the inhibitions of speaking English. Upon completion of this course, students should be able to hold an extended conversation in English on subjects related to daily life and personal interests.
*Prerequisite: ESL 9504, placement, or departmental consent. (3-4) 5

***ESL 9506 Conversational English III:** This course is designed to increase the ability and confidence of foreign nationals in verbal expression. Upon completion of this course, students should be able to

express their own ideas, feelings, preferences and impressions clearly in short, formal verbal presentations using correct English structure and pronunciation. Students also have the opportunity to give a 20-minute speech and to answer questions on a subject of their choice.
*Prerequisite: ESL 9505 or departmental consent.
(5-0) 5

ESL 9514 Grammar I: This course is designed to provide foreign-born students with the basic parts of speech of English grammar. Upon completion of the course, students should be able to use common verbs, nouns, and adjectives in oral and written statements and questions; demonstrate knowledge of simple past, present, and future structures; apply correctly the basic rules of capitalization and punctuation; write simple paragraphs which demonstrate a knowledge of simple sentences. (3-4) 5

***ESL 9515 Grammar II:** This course is designed to increase the basic English grammar skills of foreign students. Upon successful completion of this course, students should be able to discriminate correctly between the use of the progressive and simple forms of the past, present, and future tenses; form and use the present perfect and past perfect; understand and use basic modal verbs, including selected past-time forms; form and use the passive voice in all tenses; produce sentences which include simple noun clauses and adjective clauses.
*Prerequisite: ESL 9514, Placement Test, or departmental consent. (3-4) 5

***ESL 9516 Grammar III:** This course is designed to teach high intermediate grammar skills to international students. Upon completion of this course, students should be able to use advanced modal auxiliaries clauses with a focus on reported speech, adverbial clauses with an emphasis on verb tenses, conditional forms, and gerunds and infinitives.
*Prerequisite: ESL 9515, placement, or departmental consent. (3-4) 5

ESL 9524 Vocabulary I: This course is designed to provide international students with the basic, functional vocabulary necessary for daily living. Emphasis will be on using the vocabulary in writing sentences and simple compositions. Upon completion of this course, students should be able to recognize and use correctly the vocabulary taught in the course, and write a 3-4 paragraph narrative or description using simple sentences. (3-4) 5

ESL 9525 Vocabulary II: This course is designed to provide international students with intermediate level vocabulary for writing, reading, and speaking approximately 200 new vocabulary words. New vocabulary is taught in the context of daily life and is used in written exercises. Upon completion of this course, students should be able to recognize, define, pronounce, use, and spell correctly the vocabulary taught in this course.
*Prerequisite: ESL 9524 or departmental consent.
(3-4) 5

***ESL 9526 Vocabulary III—American Idioms:** This course is designed to provide high intermediate international students with the special vocabulary and meaning conveyed through idiomatic expressions. It is an objective and concise study of common American idioms and their usage in speech and writing. Upon completion of this course, students should be able to comprehend the idioms in reading passages, conversation, and use them in speech and in writing.
*Prerequisite: ESL 9525 or departmental consent.
(3-4) 5

***ESL 9534 Academic English:** This course is designed to develop the writing skills of international students and to prepare them for the composition section of the Test of English as a Foreign Language (TOEFL). Upon completion, students should be able to demonstrate high-intermediate English skills in writing 4-6 paragraph compositions in four different rhetorical modes.
*Prerequisite: ESL 9526, placement, or departmental consent. (3-4) 5

ESL 9544 Grammar IV: This course is designed to prepare non-native speakers of English for section two of the TOEFL. Attention is given to test-taking skills. Upon completion of this course, students should be able to check for errors in the finer grammatical points related to agreement, subordination, verbals, referents, word form, word order, parallel structure, and unnecessary repetition.
*Prerequisite: ESL 9516, placement, or departmental consent. (4-2) 5

***ESL 9545 Reading IV:** This course is designed to prepare non-native speakers of English for section three of the TOEFL. Attention is given to test-taking skills. Upon completion of this course, students should be able to use stems and affixes to analyze the meaning of words; use advanced knowledge of English grammar to follow the flow of ideas in a written passage; identify the meaning of new vocabulary from context; identify correct rephrasing of written statements; read passages and correctly identify details, inferences, and main ideas.
*Prerequisite: ESL 9306, placement, or departmental consent. (4-2) 5

Fashion Merchandising

FAS 3210 Fashion Show Production: Upon completion of this course, students should be able to recognize the different objectives of different types of fashion shows and activity. The course culminates in an actual show planned and implemented by the students. (1-2) 2

FAS 3310 Retail Advertising and Promotion: Upon completion of this course, students should be able to recognize various advertising and promotional activities specific to retailers, including publicity and specialty advertising as part of overall fashion marketing strategies and budgets. (3-0) 3

FAS 3320 Psychology of Fashion: Upon completion of this course, students should be able to understand the interrelationship between fashion and its cultural, social, psychological, economic, and aesthetic implications. (3-0) 3

FAS 3310 Introduction to Fashion Merchandising: Upon completion of this course, students should be able to understand the nature of the business enterprise, the industrial practices involved in the design, production, retailing, and consumption of fashion products, with emphasis on marketing/merchandising activities and interrelationships. (3-0) 3

FAS 4310 Store Operations: Upon completion of this course, students will understand the internal operations of a retail store, including organizational structure, human resource management, store image, store design, handling and protecting merchandise, and accounting and inventory systems. (3-0) 3

FAS 4220 New York Field Study: Upon completion of this course, students will be able to explain the operation of the fashion industry after attending seminars, workshops, and field trips to various apparel manufacturers. A written report will be required upon completion of the New York experience. (1-2) 2

Finance

FIN 3303 Personal Investing: In this introductory course in investments, students will learn how to define investments and describe how one should go about investing; analyze returns on investments using financial ratios; discuss securities markets and regulation of securities markets; understand terminology and terms pertinent to stocks, bonds, and other securities; discuss various investments such as insurance, investment companies, mutual funds, and tax-sheltered annuities. (3-0) 3

FIN 3314 Business Mathematics I: In this course, students will review addition, substraction, multiplication, and divison of whole numbers, fractions, and decimals. In addition, students will use these operations to solve equations and percent problems, as well as problems related to checking accounts, banking services, payroll, sales and property taxes, and various types of insurance. (3-0) 3

***FIN 3315 Business Mathematics II:** Students continuing with business mathematics will solve problems involving trade and cash discounts; markups and markdowns; simple and discount interest; compound interest and annuities; and distribution of profit with stock and bonds.
*Prerequisite: FIN 3314. (3-0) 3

FIN 3330 Real Estate Arithmetic: Upon completion of this course, students will have demonstrated competency in applying basic arithmetical processes to solving problems in real estate, including the following: geometric diagrams, commissions, profits and losses, appreciation and depreciation, interest, financial packages, taxes, insurance, capitalization, and investments. (3-0) 3

FIN 4303 Personal Estate Planning: In this introductory course in estate planning, students will learn how to determine the present condition of their estates; establish personal objectives and goals based on relevant assumptions; develop a plan to increase their wealth; conserve estate values by minimizing estate taxes and costs; put together an estate planning team; conduct periodic reviews of the estate plan. (3-0) 3

***FIN 4317 Financial Statement Analysis:** This course is a study of the fundamentals of the major financial statements used in accounting with particular emphasis on the balance sheet and income statement. Students will be able to demonstrate satisfactory competency in the application of various techniques of analysis to determine financial position and to interpret operating results.
*Prerequisite: ACC 1604. (3-0) 3

***FIN 4334 Business Finance I:** Upon completion of this course, students will have demonstrated an understanding of a variety of topics related to business finance. Specific areas of study include the basic forms of business organization, taxes, ratio analysis, cash budgeting, break-even analysis and leverage, cost of capital, present value concepts and capital budgeting techniques.
*Prerequisite: ACC 1604. (3-0) 3

***FIN 4335 Business Finance II:** Upon completion of this continued study of business finance, students should be able to explain the financing of corporations and other business entities. Additional topics include capital structure, leases, corporate dividend policies, and working capital management.
*Prerequisite: FIN 4334. (3-0) 3

***FIN 4336 Financial Management:** This course covers finance functions relating to buying, operating, and selling a business. Emphasis is placed on problem-solving and the development of analytical skills rather than on theory. The case method is used to develop and reinforce problem-solving skills. Students will demonstrate their ability by solving case problems related to these functions; defining and explaining valuation, financial analysis, and capital budgeting; applying a variety of techniques for managing working capital, inventories and other business assets.
*Prerequisite: FIN 4335. (3-0) 3

FIN 4350 Personal Money and Financial Management I: This is a consumer oriented course designed to enable students to become better consumers. When completed, students should have demonstrated knowledge of consumer laws, protection and remedies; family budgeting and financial planning; housing needs; transportation needs; uses of credit and its related problems. Awareness of consumer rights and responsibilities on the part of each student is emphasized throughout the course. (3-0) 3

FIN 4390 Personal Money and Financial Management II: A continuation of FIN 4350, this course is designed to enable students to become better consumers. Long-range planning is the major emphasis. Upon completion of the course, students should be able to make a long-range financial plan for the family; determine insurance needs; understand retirement income planning; understand estates, wills, trusts, and their uses; and determine the need for professional help from lawyers, accountants, bankers, and others in their planning. (3-0) 3

FIN 4300 Analyzing Financial Statements —AIB: This is a specialized course designed for students enrolled in the AIB/Banking and Finance Programs. Upon completion of this course, students should be able to describe the need for credit investigation and appraisal; define and describe financial statement analysis; prepare financial statements, including the income statement and balance sheet; apply analytical formulae to interpret these statements; prepare a cash budget and operating budget. (3-0) 3

Fire Protection

FIP 3301 Fire Prevention Programs and Public Relations: Upon completion of this course, students should be able to list and discuss the principles and applications of fire prevention related to the community and industrial plants; discuss the development and maintenance of fire prevention programs, educational programs, and inspection programs; apply related disciplines to fire prevention problems. (2-2-0) 3

FIP 3303 Fire Protection I: Upon completion of this course, students should be able to list and describe the goals of the Williamsburg Conference; evaluate current trends and loss patterns using current statistics; describe the fire characteristics and hazards of flammable and combustible materials; describe the role of federal related agencies. (3-0-0) 3

FIP 3401 Plant Emergency Operations: Upon completion of this course, students should be able to define, in relation to the industrial facility, the regulatory requirements as imposed by OSHA, insurance carriers, and other regulation agencies; develop a plan of interfacing with outside assisting emergency organizations; develop a procedure for organizing, staffing, and training a plant emergency brigade. (3-2-0) 4

***FIP 3404 Chemistry of Flammable Materials:** Upon completion of this course, students should be able to list and describe theories of combustion and extinguishment; analyze flammable materials and describe the nature of extinguishing agents; list the properties of matter affecting fire behavior; discuss the use, storage, and disposal of flammable solids, liquids, gases, and dust, using the laws and principles of chemistry and physics as a basis for discussion.
*Prerequisite: CEM 3300. (3-2-0) 4

FIP 3405 Flame Propagation and Material Rating: Upon completion of this course, students should be able to explain the three basic elements which determine the fire hazards of a building; define the different types of interior finish to exclude trim and incidental finishes; calculate the flame spread behavior of floor covering systems to include cellulosic materials, carpet materials and certain floor tiles. *Note: Student must have Student Accident Insurance.* (2-4-0) 4

FIP 3406 Arson Investigation I: Upon completion of this course, students should be able to compare and contrast the facts, truths, trends, and statistics pertaining to loss of life and property from accidental and incendiary fires; identify the effects of fire and its behavior, including the factors which influence the spread of fires, such as weather, heat transformed, and spontaneous heating; categorize, list, and document the fire scene and submit evidence for scientific examination. (3-2-0) 4

***FIP 3408 Arson Investigation II:** Upon completion of this course, students should be able to examine a fire area to determine point of origin; describe the legal ramifications of preserving the fire scene and protecting the corpus delecti; describe how to present testimony in the manner expected of an expert witness.
*Prerequisite: FIP 3406. (3-2-0) 4

FIP 4304 Fire Protection Law: Upon completion of this course, students should be able to list and discuss pertinent laws and ordinances and codes of fire protection and the responsibilities and powers of the individual or organizations concerning enforcement; discuss liability of fire protection personnel when making inspections, recommendations, fighting fires, and other tasks; discuss specific court cases including tort, terms, and contracts. (3-0-0) 3

FIP 4314 Methods of Teaching: Upon completion of this course, students should be able to define learning; describe the steps necessary in motivating learning; list the traps an instructor must avoid; list parts of a lesson plan; develop lesson plans for classroom presentations; write behavioral objectives. (3-0-0) 3

***FIP 4403 Hydraulics for Fire Protection:** Upon completion of this course, students should be able to describe the flow of fluids through fire hoses, nozzles, appliances, and measure fluid flow accurately using appropriate methods of determining quantities of water available through fire systems.
*Prerequisite: MAT 3500. (3-2-0) 4

***FIP 4404 Water Distribution Systems:** Upon completion of this course, students should be able to identify and describe sources of water, water storage, measurement of fluid flow, and methods of determining quantities of water available from a distribution system.
*Prerequisite: MAT 3500. (3-2-0) 4

FIP 4405 Sprinkler and Standpipe Systems: Upon completion of this course, students should be able to identify and describe the various types of sprinkler and standpipe systems; list and discuss system devices and their operations to include advantage of sprinkler system, codes governing installation, water supply requirements, testing, inspection, and maintenance. (3-2-0) 4

FIP 4414 Inspection Principles and Building Codes: Upon completion of this course, students should be able to list fundamentals of fire inspection including standards, techniques of evaluation of hazards by degrees, and practical recommendations; inspect buildings and write reports on each building, to include maps and sketches of each building, location of hazards, and recommendations for safe practices and improvements. (3-0-3) 4

FIP 4423 Portable and Fixed Extinguishing Systems: Upon completion of this course, students should be able to list and describe the various types of portable and fixed extinguishing systems, their operation, application, installation, and maintenance; demonstrate skill in operating portable and fixed extinguishing systems. (3-2-0) 4

FIP 4424 Automatic Alarm Systems: Upon completion of this course, students should be able to list and describe the types of standard and special fire alarm and fire detection systems to include discussion of their operations, installation, requirements, testing, inspections, and maintenance. (3-2-0) 4

***FIP 4434 Chemical and Radiation Hazards:** Upon completion of this course, students should be able to list and describe the hazards encountered in chemical and petroleum industries; list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; list and describe common uses of radioactive materials, their transportation and storage; demonstrate skills of chemical and radioactive inspections.
*Prerequisite: FIP 3404. (3-2-0) 4

FIP 4444 Fire Fighting Strategy: Upon completion of this course, students should be able to list and describe tactics and strategy in extinguishing fires; list and describe pre-fire plans, fire flow calculations, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires and fuel analysis; demonstrate appropriate response to simulated crises. (3-2-0) 4

FIP 4454 Building Construction: Upon completion of this course, students should be able to list and discuss building codes applicable to fire prevention; list and describe the principles and practices used in various types of building construction. (3-2-0) 4

***FIP 4464 Hazardous Material Analysis and Emergency Planning:** Upon completion of this course, students should be able to describe the various hazard survey principles and techniques for detecting the presence of hazardous materials in indus-

trial/commercial occupancies; demonstrate the use of reference resources and identification systems for hazardous materials properties; develop a pre-plan from on-site visits of an oil/gasoline tank farm, railroad terminal yard, LPG tank storage farm, and a chemical plant.
*Prerequisite: FIP 4434. (2-4-0) 4

Food Service

FSO 3301 Nutrition: This course is designed to provide students with basic facts about foods and nutrition and to aid them in developing the ability to sort out and apply new developments in this field to food preparation. Upon completion of this course, students should be able to explain the relationship of food to health and physical fitness; discuss food nutrients and their functions in the body; describe how the body ulitizes food; explain the process of getting food from the producers to the consumers; and discuss the essentials of an adequate diet to maintain health. (3-0) 3

FSO 3504 Food Preparation I: Students will be introduced to the basic food preparation principles and procedures. They will prepare items in the kitchen, serve in a dining room, and work in the clean-up and stock areas of a restaurant. The class will be a combination of lab time and lecture time. (2-9) 5

***FSP 3505 Food Preparation II:** This course is designed to be a continuation of the students' cooking skills and knowledge building on what was learned in FSO 3504. They will rotate through various stations in the dining room and kitchen, also, preparing and serving food. The lab and lecture will be heightened by a field trip and guest lecturers. (2-9) 5

***FSO 3506 Food Preparation III:** Students will begin in this course to apply the knowledge gained in FSO 3505 to more advanced preparation techniques, the handling of specialty items (veal & lamb) and preparation of full buffets. They will also be introduced to menu development and writing, as well as buffet layout and service. In this course, students should begin to feel the confidence that comes with a growing understanding of food preparation. (2-9) 5

FSO 4200 Equipment Usage, Lay-Out, and Design: Upon completion of this course, students will be able to identify, operate, and clean commercial equipment; identify small and large hand tools and equipment. They will also identify and design basic layout and flow charts for effective kitchen use. (2-0) 2

FSO 4208 Cooperative Education: This course is designed to aid students in applying the skills necessary for success in the food service industry by providing actual supervised work experience in the food industry under the guidance of an Executive Chef. Upon completion of this course, students should be able to perform successfully the objectives outlined in the training plan, including such skills as ability to operate fry, broiler, and saute stations; set up a salad station; prepare salads; perform bakery shop operations; evaluate their own performance in the field; assess requirements and responsibilities for successful employment, and evaluate their own capacity to comply with such demands. (0-20) 2

FSO 4300 Sanitation: Upon completion of this course, students will be provided information and methods concerning sanitation procedures to food handling function from purchasing, storing, to preparing and serving to patrons. Students will also learn how to maintain a sanitary operation, such as training workers and dealing with local health department. (3-0) 3

FSO 4304 Food and Labor Cost Controls: This course concerns food costs and skills necessary for setting food cost objectives. Upon completion of this course, students should be able to define food costs; perform skills necessary for setting food cost objectives; explain the value of establishing standard portions; demonstrate knowledge of purchasing methods; discuss the importance of a weekly inventory; explain the importance of Food Issuing forms; explain the value of comparative buying. (3-0) 3

FSO 4407 Baking I: Upon completion of this course, students should be able to demonstrate the use of correct measurements and proper use of various baking tools and equipment; understand primary baking ingredients and their properties; prepare basic yeast doughs, quick breads, basic pastry doughs, basic fruit and cream fillings, basic cookie doughs; understand principles of sanitation, safety, and inventory control. (2-6) 4

***FSO 4408 Baking II:** Students will continue to apply the basics learned in FSO 4407. Upon completion of this course, they should be able to prepare various cakes, basic syrups, creams, icings, and sauces. (2-6) 4

***FSO 4409 Baking III:** Upon successful completion of this course, students should be able to prepare danish and puff pastries; specialty rolls, breads, and pastries; prepare more complex sweet doughs, pies and tarts, specialty cookies; demonstrate the use of large and small pastry bag. (2-6) 4

FSO 4414 Garde Manger I: This course is designed as an introduction to cold preparation techniques (i.e. salads, hors d'oeuvres, appetizers). Students will begin to study the basics of garnishing food and the need for creativity. The discussion periods will include films and guest lecturers. (2-6) 4

***FSO 4415 Garde Manger II:** Students will continue to apply the basics learned in FSO 4414 in this course. They will prepare various salads, dressings, aspics, etc. for service in the dining room as well as gaining experience in stockroom, scully, and supervision. An introduction to ice and tallow carving will also be part of this course. (2-6) 4

***FSO 4416 Garde Manger III:** Upon successful completion of this course, students should be able to recognize and prepare different types of Chaud Froid sauce; create a classic Chaud Froid showpiece; plan and prepare a buffet with a showpiece; demonstrate skills necessary for creating special garnishes; compose a menu to fit an establishment's specific needs; demonstrate the better techniques used in ice carvings; display a knowledge of Pates. (2-6) 4

***FSO 4419 Baking IV:** Upon completion of this course, students should be able to make and work with marzipan; prepare royal buttercream and boiled icings, make and work with pastillage; know and demonstrate use of appropriate decorator tubes; make flowers and borders; make and decorate birthday, wedding, and specialty cakes; and work with chocolate coverture. (2-6) 4

***FSO 4426 Garde Manger IV:** Upon completion of this course, students should be able to create edible counterpieces; design a pantry and garde manger area; demonstrate skills in ice, tallow, or cheese carving; prepare exhibition quality showpieces; plan, coordinate, and execute various types of buffets; supervise garde manger staff; demonstrate proper handling techniques throughout garde manger. (2-6) 4

***FSO 4506 Food Preparation IV:** This course is designed to fine tune the students' food preparation skills. They will be involved in the preparation of Game; introduced to a variety of types of cuisine, and preparation of specialty dinners. Upon completion of this course, students should have a solid knowledge of hot food preparation. (2-9) 5

French

FRE 1300 Travel French: This course provides an oral approach to comprehending and communicating in French. Upon completion of this course, students should be able to use basic communication in terminals, shops, restaurants, hotels, and other places. Tapes, filmstrips, movies and extensive conversation in the classroom reinforce instruction. *(Elective credit only. Does not satisfy humanities requirement.)* (3-0) 3

FRE 1600 Elementary French I: Upon completion of this course, students will have a knowledge of some basic elements of French in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. *(Does not satisfy humanities requirement.)* (5-2) 6

***FRE 1601 Elementary French II:** This course is a continuation of FRE 1600 in basic elements of conversation, reading, and writing.
*Prerequisite: FRE 1600 within previous two quarters or consent of department head. *(Does not satisfy humanities requirement.)* (5-2) 6

***FRE 2320 Special Topics:** This is an advanced course in which students and the instructor select topics for independent study. Class meets for oral reports and discussion.
*Prerequisite: FRE 2600 within previous two quarters or consent of department head. (3-0) 3

***FRE 2600 Intermediate French I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings.
*Prerequisite: FRE 1601 or two high school units within two previous quarters or consent of department head. (5-2) 6

***FRE 2601 Intermediate French II:** Upon completion of this course, students will have completed their review of grammar along with readings in French, with emphasis on people and events that have determined the destiny of France from the beginnings to the present.
*Prerequisite: FRE 2600 within previous two quarters or consent of department head. *(FRE 2600 and FRE 2601 combined will satisfy humanities requirement.)* (5-2) 6

General Studies

GEN 1140 Field Biology: This course is specifically designed for the general interest Weekend College student. Upon completion of the course, students should be able to write a description, using field notes, of the major flora and fauna of the specific field location being studied. (6-10) 1

GEN 1141 Introduction to Nature Photography: An introduction to the basic principles of nature photography with emphasis on various types of cameras, lenses, and films, indicating the limitations of each. Also an introduction to the techniques of photography from blinds, and tips on how to photograph anything from wild flowers to birds. (6-10) 1

GEN 1142 Field Biology/Ecology of North Carolina: This course consists of three 7-1/3 hour field sessions: one each to Coastal region/seashore, Piedmont region, and mountains. Each trip provides in-the-field instruction about the area visited. Highlights of the ecology, geology, flora and fauna of each area are observed and discussed. The course uses three different instructors, each with experience and expertise in the specific area. Students will provide their own transportation to and from field locations. (0-22) 1

GEN 1144 Ecology by Canoe: A course of general interest designed to meet the needs of the Weekend College student. The course is made up of 3 all-day (7-1/3 hours) field trips by canoe. Students will learn about the flora and fauna of three different geographical regions and streams of North Carolina: i.e., Coastal Plain, Piedmont, and Mountain. Little or no canoeing experience is necessary—flatwater streams are selected. Students will provide their own transportation to and from field locations. (0-22) 1

GEN 1148 Field Identification of Insects: An introduction to insect identification using taxonomic keys down to the major orders of insects. Characteristics of insects will be compared to other arthropods and other animal phyla. Also the importance of insects to humanity and the environment will be stressed along with control methods. (6-10) 1

GEN 1149 Field Ornithology: An introduction to the identification and study of birds in the field. Upon satisfactory completion of this course, students should be able to identify several kinds of birds on sight and demonstrate knowledge of special adaptations, kinds of food, and life histories of selected species. (6-10) 1

GEN 1230 Writing to Sell: This course focuses upon the technique of researching, writing, and selling nonfiction prose. "Slanting" or adapting articles to specific magazines, newspapers, and other such publications is emphasized. The object of the course is to prepare written materials for marketing. (2-0) 2

GEN 1331 Introduction to North Carolina Folklore: Upon completion, students should be able to explain the importance of both oral and material culture of North Carolina and the South. They should recognize the importance of folk groups, historic themes, narrative genres of folk tales, customary folklore (superstition, festivals, etc.), and material folk traditions (arts and crafts, etc.). (3-0) 3

Geography—Physical

GEO 1614 Introduction to Physical Geography: A study of the basic physical elements of geography aimed at understanding the physical environment. Upon completion of this course, students should be able to demonstrate a basic understanding of the earth's geographic grid system, earth-sun relations, basic concepts of cartography, meteorology, hydrology, climatology, and biogeography. (5-2) 6

Geography—World

GPY 1500 Introduction to World Geography: Upon successful completion of this course, students will be able to describe the major types of physical environment; explain how the physical environment influences economic development, trade, and communications patterns; explain how these human activities affect each other and the physical environment; and identify political boundaries and resource concentrations, major terrain features, and other important elements of the human and physical environments. (5-0) 5

Geology

GEL 1604 Physical Geology: An introductory course with emphasis on geology as an environmental discipline. Upon completion of this course, students should be able to demonstrate knowledge in the following areas: common minerals and rocks, earth processes, development of surface features, and geologic resources. (5-2) 6

GEL 2605 Historical Geology: A course in the sequence of earth's history. Upon completion of this course, students should be able to demonstrate knowledge in these areas: recognition of major fossils and associated rock strata; appreciation of the age of many geological formations, and how historical geology aids in finding natural resources. (5-2) 6

German

GER 1600 Elementary German I: This course emphasizes basic elements of German in conversation, reading, and writing for beginning students, with laboratory tapes to reinforce classroom instruction. *(Does not satisfy humanities requirement.)* (5-2) 6

***GER 1601 Elementary German II:** This course is a continuation of GER 1600 in basic elements of conversation, reading, and writing.
*Prerequisite: GER 1600 within previous two quarters, or departmental consent. *(Does not satisfy humanities requirement.)* (5-2) 6

***GER 2600 Intermediate German I:** This course provides an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings.
*Prerequisite: GER 1601 or two high school units within previous two quarters, or consent of department head. (5-2) 6

***GER 2601 Intermediate German II:** This course is a continuation of GER 2600. Reading of selections from German literature are combined with oral and written work in class.
*Prerequisite: GER 2600 within previous two quarters, or consent of department head. *(GER 2600 and GER 2601 combined will satisfy humanities requirement.)* (5-2) 6

Graphic Arts, Printing

***PRN 4204 Graphic Arts Cooperative Lab II:** This course is a continuation of PRN 5207 Graphic Arts Cooperative Lab I.
*Prerequisites: PRN 5207. Completion and acceptance by Program Director and completion of Work Experience Registration Approval Form. (0-20) 2

PRN 4311 Printing Sales: Upon completion of this course, students should be able to plan and prepare for a sales interview with a client; describe proper procedures in dealing with a client and associates in the printing industry; describe the system of selling by objectives; describe the importance of physical fitness and proper grooming; write effective business letters; describe the proper use of audio-visuals in selling; demonstrate a familiarity with the printing processes, printing supplies, trade customs and ethics; describe proper procedures for credit collections. (3-0) 3

***PRN 4337 Color Separation Techniques and Theory:** Upon completion of this course, students should be able to describe basic color theory with regard to additive and subtractive color; produce a set of process color separations; explain the procedure to color correct by wet and dry dot etching.
*Prerequisite: PRN 5409 is recommended. (2-2) 3

***PRN 5207 Graphic Arts Cooperative Lab I:** Upon completion of this course, students should be able to apply the skills learned in the graphic arts classroom and lab to actual working situations in the graphic arts industry.
*Prerequisite: Permission of the program director and completion of Work Experience Registration Approval Form. (0-20) 2

***PRN 5272 Printing Applications I—Part B:** A continuation of PRN 5371.
*Prerequisite or corequisite: PRN 5371. (0-6) 2

***PRN 5273 Printing Applications I—Part C:** A continuation of PRN 5272.
*Prerequisite or corequisite: PRN 5272. (0-6) 2

***PRN 5282 Printing Applications II—Part B:** A continuation of PRN 5381.
*Prerequisite or corequisite: PRN 5381. (0-6) 2

***PRN 5283 Printing Applications II—Part C:** A continuation of PRN 5282.
*Prerequisite or corequisite: PRN 5282. (0-6) 2

PRN 5301 Printing Management: Upon completion of this course, students should be able to describe the structure of the management levels in a company; discuss management skills and leadership traits of first-line supervisors or small shop managers; describe production control, proper purchasing of supplies, quality control, and material handling. (3-0) 3

***PRN 5303 Printing Estimating:** Upon completion of this course, students should be able to compute paper and ink costs; copyfit type for a job; compute cost of producing a negative, plate, printing, and bindery for a given job.
*Prerequisites: PRN 5315, PRN 5425 and PRN 5435 or permission of program director. (3-0) 3

PRN 5310 Paper and Ink: Upon completion of this course, students should be able to state the characteristics of the major classifications of paper and other substrates; describe how paper and ink are manufactured and distributed; describe and give solutions to paper and ink related problems on the press; select paper and ink properly matched to the customer's specifications. (3-0) 3

PRN 5313 Typesetting I: Upon completion of this course, students should be able to describe the requirements of good composition; trace the development of typesetting; operate a modern phototypesetter and produce quality photo type; perform maintenance operations on a modern phototypesetter; produce quality photo-display type; describe future trends in typesetting. (2-2) 3

PRN 5314 Process Camera I: Upon completion of this course, students should be able to describe the purpose and function of photomechanical photography and its equipment and materials; set up and operate a process camera shooting line and halftone copy; use a densitometer, the diffusion transfer process and process photography filters. (2-2) 3

*__PRN 5315 Process Camera II:__ (A continuation of PRN 5314). Upon completion of this course, students should be able to shoot line and halftone copy of a more difficult nature; do special effects photography including duotones, dropout halftones, special effects; screen color separations properly.
*Prerequisite: PRN 5314. (2-2) 3

PRN 5316 Production Screen Printing: Upon completion of this course, students should be able to use correctly all basic materials of screen printing; prepare hand-cut film stencils, photo direct and photo indirect stencils; print on at least two different surfaces; describe the differences in the technique and materials used in printing on different materials; describe the different uses of screen printing; describe the use of machines and automated equipment in industrial screen printing. (2-2) 3

PRN 5317 Electronic Publishing and Typesetting: Upon completion of this course, students should be able to plan, mark up and produce a job with varied format; set copy to specifications using a microcomputer, proofread and make corrections on a microcomputer with laser printer. (2-2) 3

*__PRN 5319 Electronic Publishing II:__ Upon completion of this course, students should be able to describe applications of electronic publishing and its relation to graphic arts; operate hardware in a microcomputer-based electronic publishing system using advanced software; produce completed projects including graphics and text.
*Prerequisites: PRN 5317. (2-2) 3

*__PRN 5320 Computerized Prepress:__ Upon completion of this course, students should be able to explain the use of computerized prepress as it is used in the graphic arts industry; be able to use a microcomputer and appropriate software to perform basic techniques in the areas of typesetting, copy preparation pagination, stripping for offset, and image manipulation.
*Prerequisites: PRN 5401, PRN 5314, PRN 5365, PRN 5317. (2-2) 3

*__PRN 5364 Fundamentals of Offset Printing:__ This course is designed to give Commercial Art students a basic understanding of offset lithography. At the completion of this course, students should be able to produce line and halftone negative; strip combination flats; make plates; print a simple self-promotional folder.
*Prerequisites: VCO 4304, VCO 4305, VCO 4415. (2-2) 3

PRN 5365 Stripping I and Platemaking: Upon completion of this course, students should be able to describe and demonstrate various methods of image assembly; strip line and halftone combinations; make dylux and color proofs; strip multi-color work with two, three, and four overlapping screen tints; step and repeat an image; expose and process various types of offset plates. (2-2) 3

PRN 5369 Introduction to Graphic Arts: Upon completion of this course, students should be able to list and describe the major printing processes; describe the phases a piece of printing goes through in the production process; describe the duties performed by those employed at various stages of production, management and sales; describe the graphic arts industry in the local area. (3-0) 3

*__PRN 5371 Printing Applications I—Part A:__ (A course for students unable to make the total time requirements for PRN 5700 in one quarter.) At the completion of this course, PRN 5372 and PRN 5373, students should have met all the requirements for PRN 5700.
*Prerequisite: Same as PRN 5700. (2-3) 3

*__PRN 5381 Printing Applications II—Part A:__ (A course for students unable to make the total time requirements for PRN 5704 in one quarter.) At the completion of this course, PRN 5282, and PRN 5283, students should have met all the requirements for PRN 5704.
*Prerequisite: Same as PRN 5704. (2-3) 3

*__PRN 5390 Individual Study:__ This course provides students with the opportunity to develop a special program of studies to fit a particular need not met by other courses during the second year of study. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member. *(over)*

*Prerequisite: Approval of the sponsor and the program director is required along with an application to take the course. (3-0) 3

PRN 5401 Copy Preparation I: Upon completion of this course, students should be able to produce camera ready paste-up; use the common tools and materials found in copy preparation; produce simple and complex mechanicals using key line art work and overlays; describe the relationship of copy preparation with the rest of the printing process. (2-4) 4

PRN 5402 Basic Calculations for Printers: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems in the graphic arts field; use ratio and proportion to describe chemical mixtures in the lab; read a scale accurately; determine mathematically the most economical cut of paper stock; perform area and volume calculations; use simple algebraic equations to solve dimensional problems; have a working knowledge of pica and point measurement; discuss measurement using the metric system as well as the English system. (4-0) 4

***PRN 5403 Copy Preparation II:** (A continuation of PRN 5401.) Upon completion of this course, students should be able to complete paste-up mechanicals and camera ready art of a more difficult nature.
*Prerequisite: PRN 5401. (2-4) 4

***PRN 5409 Color Reproduction:** Upon completion of this course, students should be able to explain color theory; describe various methods used to make separations, identifying strengths and weaknesses; list and describe the major proofing methods used for process color; produce a simple eye pleasing color separation.
*Prerequisites: PRN 5435, PRN 5315, PRN 5425. (3-2) 4

PRN 5424 Offset Press I and Bindery: Upon completion of this course, students should be able to describe and perform procedures in press make-ready including determining correct measurements for packing, mounting of plates and blankets; set the feeder, delivery, dampener rollers, ink, fountain solution, and pH; operate duplicator to produce a satisfactory printed piece; identify and describe the various types of bindery operations including book bindery, finishing operations in packaging, padding and other general bindery procedures. (2-4) 4

***PRN 5425 Offset Press II:** (A continuation of PRN 5424). Upon completion of this course, students should be able to operate a full size offset press; identify and correct problems during press run; control the register of color printing.
*Prerequisite: PRN 5424. (2-4) 4

***PRN 5435 Offset Stripping II:** (A continuation of PRN 5424). Upon completion of this course, students should be able to make up flats for larger offset presses; composite negatives; strip duotones and process color; work with spreads and chokes; identify various methods of stripping a printed piece to produce the desired finished product; work with more involved and difficult stripping projects.
*Prerequisite: PRN 5365. (2-4) 4

***PRN 5700 Printing Applications I:** Upon completion of this course, students should have attained additional skills in the following areas: layout and paste-up of mechanical art; planning a detailed method of production; shooting line, halftone and special effects copy; stripping; making plates; operating press and bindery equipment. Students will produce commercial quality printed pieces.
*Prerequisites: PRN 5313, PRN 5314, PRN 5365, PRN 5401, PRN 5424, and the permission of the program director. (2-15) 7

***PRN 5704 Printing Applications II:** (A continuation of PRN 5700 Printing Applications I). Upon completion of this course, students will have completed tasks of a more complex nature in the following areas; layout and paste-up of mechanical art; planning a detailed method of production; shooting line, halftone, and special effects copy; stripping, making plates, operating press and bindery equipment. Students will produce commercial quality printed pieces.
*Prerequisite: PRN 5700 and permission of the program director. (2-15) 7

Health Education

HED 1111 Special Health Problems: Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (1-0) 1

***HED 1153 CPR Instructor:** Upon completion of this course, students should be able to prepare lesson plans for teaching cardiopulmonary resuscitation and present these plans in class; demonstrate effective methods and technique; administer specific tests of basic CPR skills.
*Prerequisite: HED 1203. (1-0) 2

HED 1201 Special Health Problems: Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (2-0) 2

HED 1203 Cardiopulmonary Resuscitation (CPR): Students are instructed in Emergency First Aid and CPR procedures. Upon completion of this course, students should be able to give care to the injured and perform emergency procedures when cardiac arrest occurs. (2-0) 2

HED 1204 Standard First Aid: Upon completion of this course, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. (1-2) 2

***HED 1205 Standard First Aid Instructor:** Upon completion of this course, students should be able to demonstrate skills in writing lesson plans and presenting them in class situations.
*Prerequisite: HED 1204. (1-2) 2

HED 1208 Personal Fitness Analysis: Upon completion of this course, students should be able to assess their health and fitness status by the use of laboratory tests such as calculating body fatness, determining aerobic fitness and flexibility. The student's test results are computer analyzed. The student participates in an exercise program to improve fitness level. (1-2) 2

HED 1300 Introduction to Health Education: Upon completion of this course, students should be able to define the basic concepts of health and relate these to everyday life, evaluate health information, and identify current health issues. (3-0) 3

HED 1301 Special Health Problems: Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe solutions to these problems. (3-0) 3

HED 2204 Prevention and Treatment of Injuries in Recreation: Upon completion of this course, students should be able to identify areas of athletic injuries, be able to give first aid for these injuries, and describe ways to prevent recurrence. (1-2) 2

HED 2301 Human Sexuality in the Helping Skills: Upon completion of this course, students should be able to describe the major life cycles and how sexuality is affected during each cycle; identify community agencies that have a sexuality component; describe contraceptive methods; identify major sexually transmitted diseases. (3-0) 3

History

HIS 1500 World Civilization I: This course involves a study of the development of civilization from the prehistoric period to the Seventeenth Century. Upon completing this course, students should be able to analyze significant events and identify patterns in early political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, and Africa, making relationships between past events and relating these to contemporary problems. (5-0) 5

HIS 1501 World Civilization II: This course involves a study of development of civilization from the Seventeenth Century to the present. Upon completing this course, students should be able to analyze significant events and identify patterns in recent political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, Africa, and the Americas, thus giving context for understanding the present world order. (5-0) 5

HIS 1502 American History I: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from the Colonial era to 1877. (5-0) 5

HIS 1503 American History II: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in American history from 1877 to the present. (5-0) 5

HIS 1504 Recent American History: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religions, intellectual, and cultural developments in America from 1941 to the present. (5-0) 5

HIS 1505 The Modern World: This course involves a study of outstanding recent developments in the United States and the world and the historical background of these developments. Upon completion of this course, students should be able to explain the interdependence among the world community of nations; examine the contrasting political, social, and economic systems represented in the world community of nations; discuss the impact of technology on people, their institutions, and their values; discuss the conflicting value systems within contemporary American society and within the world community of nations; examine their own value systems; examine recent developments in the United States, and analyze and draw logical inferences from a variety of primary and secondary source material relating to selected contemporary events, issues, and policies. (5-0) 5

HIS 1510 The American Civil War: Upon completion of this course, students should be able to explain why the Civil War was a turning point in our nation's history; describe why the tragic years from 1861 to 1865 form an important episode in our national history; explain why, before 1860, the Southern economy was bound to the institution of slavery; describe how the divergent economic structures of the North and South would cause conflict; explain the frame of reference of the North and South in terms of ideology. (5-0) 5

HIS 1520 Black History I: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of the Black American from ca. 3000 B.C. to 1865; analyze and evaluate the philosophies of major Black American leaders from the era of Colonial America to the era of the Civil War; evaluate major historical interpretations of Black American history. (5-0) 5

HIS 1521 Black History II: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of the Black American from 1865 to the present; analyze and evaluate the philosophies of major Black American leaders during this period; evaluate major historical interpretations of Black American history. (5-0) 5

***HIS 2104-2504 Special Topics in History:** This designation allows students individually or in groups to investigate in greater detail special topics of particular interest not covered in regular classroom offerings. The specific objectives will vary with each course.
*Prerequisite: consent of instructor and department head. (1 to 5 hrs. class/week—1 to 5 hrs. credit)

HIS 2500 North Carolina History: Upon completion of this course, students should be able to examine the major historical, geographical, and governmental developments in North Carolina from the colonial era to the present. Through field trips and special projects they will evaluate the cultural developments and socio-economic contributions of the State. (5-0) 5

Horticulture

HOR 3111 Horticulture Seminar: Upon completion of this course, students should be able to demonstrate knowledge of various horticulture job classification responsibilities and rewards that are entailed in each; demonstrate knowledge of various horticultural organizations and agencies. (1-0) 1

***HOR 3205 Cooperative Work Experience (Co-Op):** Upon completion of this course, students should be able to exhibit a positive attitude toward work in a horticultural business; gain applied experience to supplement class and lab learning.
*Prerequisite: Permission of program director and Co-Op Office, and COE 3100. (0-20) 2

HOR 3210 Floral Design: Upon completion of this course, students should be able to demonstrate basic care and handling of cut flowers; choose and utilize basic floral supplies; demonstrate the 9 fundamental floral design lines; demonstrate 4 basic types of floral design pieces. (1-2) 2

HOR 3302 Landscape Graphics and Measurements: Upon completion of this course, students should be able to execute measurements commonly used in landscaping; read "working" landscape plans and specifications; prepare basic "working" landscape plans and specifications; reproduce landscape plans. (2-2) 3

***HOR 3304 Computer-Aided Landscape Graphics:** Upon completion of this course, students should be able to identify and define the components of a CAD system and compare component functions in major systems; demonstrate proficiency in the use of commands and controls of a CAD system; produce a library of landscape symbols; produce scale landscape drawings to include site layout, plant symbols, and appropriate lettering.
*Prerequisite: HOR 3302 or permission of program director. (2-3) 3

HOR 3308 Introductory Horticulture: Upon completion of this course, students should be able to demonstrate knowledge of the branches of Horticulture and their inter-relationships; demonstrate basic knowledge in the following areas: plant selection and purchasing; propagation, turf, grounds maintenance, and landscaping; describe the various licensure and certifications needed in Horticulture; describe various career opportunities in Horticulture. (2-2) 3

HOR 3312 Indoor Plants: Upon completion of this course, students should be able to describe the characteristics to look for in houseplants and plant shops; discuss the importance of selected tools, supplies and containers for proper houseplant care; discuss the effects of selected environmental factors important to houseplants; identify 50 selected houseplants; identify and give control measures for 12 selected pest problems of houseplants. (2-2) 3

HOR 3360 Organic Methods in Horticulture: Upon completion of this course, students should be able to identify plant nutrient requirements and pest problems; use resource materials to recommend corrective organic methods for nutrient deficiency and plant pest problems; set up and practice organic methods of plant problem remediation and maintenance. (2-2) 3

HOR 3400 Landscape Plants I—Woody: Upon completion of this course, students should be able to identify by sight 90 selected plants; list the physical characteristics, cultural requirements and landscape uses of these plants; identify any special remarks regarding these plants. (3-2) 4

HOR 3401 Plant Propagation I: Upon completion of this course, students should be able to perform the following types of asexual propagation: layering, cuttings, grafting, budding, dividing; perform sexual (seed) propagation of ornamental plants; select, use, and maintain equipment and supplies used in plant propagation; choose the correct propagation method for a variety of ornamental plants. (2-4) 4

HOR 3404 Landscape Plants II—Woody and Herbaceous: Upon completion of this course, students should be able to identify by sight 120 selected plants; list the physical characteristics, cultural requirements and landscape use of these plants; identify any special remarks regarding these plants. (3-2) 4

HOR 3405 Grounds Maintenance II: Upon completion of this course, students should be able to explain the purpose of and list sources of the major, minor, and trace nutrient elements; perform simple soil tests for nutrient content and pH; select and apply fertilizers correctly to selected ornamentals; identify and execute preventive and corrective controls of selected insect pests of ornamentals; identify and execute preventive and corrective controls of selected disease pests of ornamentals; select, use, and maintain equipment, items and materials used in the above operations. (2-4) 4

HOR 3410 Turf Management: Upon completion of this course, students should be able to identify at least seven selected turf grasses; list the cultural requirements for each of the seven selected turf grasses; establish turf grasses by four different methods; maintain turf grass by being able to select and use turf equipment and supplies; identify and control common turf pests. (2-4) 4

HOR 3503 Nursery Technology: Upon completion of this course, students should be able to perform the day to day operations used to grow, maintain, and harvest both container and field grown nursery stock; select, use, and maintain nursery equipment and supplies; discuss the various kinds of nurseries; discuss marketing of nursery products and services; perform garden center operations. (3-4) 5

HOR 3504 Grounds Maintenance I: Upon completion of this course, students should be able to identify problems and execute preventive and corrective controls of weed problems common to ornamentals; select and apply mulches for usual maintenance situations; identify and execute preventive and corrective controls of water problems in grounds maintenance; prune all plants on a selected list of ornamentals; select, use, and maintain equipment items used in the above operations. (3-4) 5

***HOR 3505 Landscape Gardening:** Upon completion of this course, students should be able to analyze the landscape potential of a landscape project area; prepare detailed landscape plans, plant lists and planting specifications; install a landscape planting; perform basic landscape construction.
*Prerequisite: HOR 3302. (3-4) 5

HOR 4101 Senior Seminar: Upon completion of this course, students should be able to describe skills, tasks, and competencies required in various horticultural jobs; discuss various employee-employer relationships; complete a job research study of a prospective employer. (1-0) 1

***HOR 4203 Advanced Floral Design:** Upon completion of this course, students should be able to demonstrate skill in the processing of cut flowers; demonstrate skills in the following floral design areas: container setup and selection, holiday arrangements, advanced wedding arrangements, advanced funeral pieces, dried flower, silk, and twig arrangements, mats, brooms and fruit arrangements, oriental and free form creative design pieces.
*Prerequisite: HOR 3210 or permission of instructor. (1-2) 2

HOR 4400 Arboriculture: Upon completion of this course, students should be able to identify growth characteristics of selected shade and ornamental trees; select and apply correct tree maintenance procedures to include: fertilizing, pruning, pest prevention and control; know and apply basic safety rules of climbing and felling. (2-4) 4

***HOR 4404 Plant Propagation II:** Upon completion of this course, students should be able to perform advanced asexual propagation techniques to include: five types of layers, seven types of cuttings, six types of grafts and/or buds, and aseptic cultures; perform advanced sexual propagation techniques to include: selected pollination, scarification, stratification; complete detailed propagation project as assigned by the instructor.
*Prerequisite: HOR 3401. (2-4) 4

HOR 4411 Greenhouse Horticulture: Upon completion of this course, students should be able to demonstrate a working knowledge of greenhouse construction, materials, and equipment; discuss the physical and cultural needs of greenhouse plants; demonstrate a working knowledge of the growing of cut flower, bedding plant, seasonal pot plant and foliage plant crops. (2-4) 4

Health, Physical Education And Recreation

Successfully completed HPE courses may not be repeated without department head approval.

SELF-SUPPORTING: Credit will be given for successful completion of a self-supporting course. However, no additional credit will be given for repeating the same course.

HPE 1100 Individual Activity: Selected physical education topics are chosen for study. Upon completion of this course, students should be able to demonstrate skill in these topic areas. (0-3) 1

HPE 1104 Fencing—Beginning: Upon completion of this course, students should be able to perform elementary foil technique and demonstrate the basics of competitive fencing. (0-3) 1

***HPE 1105 Fencing—Intermediate:** Upon completion of this course, students should be able to perform foil techniques such as the balastra, the fleche, the croise, taking the blade and competitive fencing.
*Prerequisite: HPE 1104 or equivalent. (0-3) 1

***HPE 1106 Fencing—Advanced:** Upon completion of this course, students should be able to execute elementary sabre techniques (the on-guard position, the lunge, the cut at head, crest and flank); various parries; more advanced foil techniques; and engage in advanced competitive fencing.
*Prerequisite: HPE 1105 or equivalent. [Self-supporting] (0-3) 1

HPE 1107 Self-Defense and Physical Conditioning—Beginning: The first in a series of three courses designed to teach self-defense and promote physical well-being through the acquisition of skills and disciplines developed through the study of martial arts. Upon completion of this course, the student should be able to demonstrate basic self-defense and techniques and perform specific physical conditioning exercises. (0-3) 1

***HPE 1108 Self-Defense and Physical Conditioning—Intermediate:** The second in a series of courses designed to teach self-defense and promote physical well-being through the acquisition of skills and disciplines developed through the study of martial arts. Upon completion of this course, the student should be able to demonstrate basic self-defense and intermediate level techniques; continue specific physical conditioning exercises.
*Prerequisite: HPE 1107 or equivalent. (0-3) 1

***HPE 1109 Self-Defense and Physical Conditioning—Advanced:** The third in a series of courses designed to teach self-defense and promote physical well-being through the acquisition of skills and disciplines developed through the study of martial arts. Upon completion of this course, the student should be able to demonstrate advanced techniques of self-defense and a high level of physical conditioning.
*Prerequisite HPE 1108 or equivalent. (0-3) 1

HPE 1114 Snow Skiing—Beginning: Upon completion of this course, students should be able to do parallel turns, christies, basic jump and introductory wedelin; identify fundamentals of skiing, safety and etiquette. (0-3) 1

***HPE 1115 Snow Skiing—Intermediate:** Upon completion of this course, students should progress to longer skis, concentrating on improving traverse and side slip; expand on angulation, pole plant and unweighting, and engage in an intermediate exercise program in order to handle more advanced terrain.
*Prerequisite: HPE 1114 or equivalent. (0-3) 1

***HPE 1116 Snow Skiing—Advanced:** Upon completion of this course, students should be able to perform slalom and giant slalom techniques, elementary downhill techniques, trick skiing and jumping, pole plant, moguls and be able to ski various types of terrain.
*Prerequisite: HPE 1115 or equivalent. (0-3) 1

HPE 1117 Ice Skating—Beginning: Upon completion of this course, students should be able to perform basic ice skating maneuvers such as forward and backing, stroking one-foot glide, cross overs, arabesque, and backward wiggle. (0-3) 1

HPE 1123 Physical Fitness—Beginning: Upon successful completion of this course, students should be able to identify the three aspects of physical fitness, strength, cardiovascular endurance and flexibility; identify personal fitness needs and goals; design a personal fitness program.
*Prerequisite: HPE 1123 or equivalent. (0-3) 1

***HPE 1124 Physical Fitness—Intermediate:** Upon completion of this course, students should be able to perform specific exercises which contribute to physical fitness; explain the role exercise plays in the body systems; continue development of a personal fitness program.
*Prerequisite: HPE 1123 or equivalent. (0-3) 1

***HPE 1125 Physical Fitness—Advanced:** Upon completion of this course, students should be able to: identify and test themselves for cardiovascular efficiency; specify the physiological adaptations of the body as a result of long term exercise; plan an individualized program of exercise for immediate and future needs.
*Prerequisite: HPE 1124 or equivalent. (0-3) 1

HPE 1126 Social Dance—Beginning: Upon completion of this course, students should be able to demonstrate specific dance skills and perform the following dances: Fox Trot, Waltz, Lindy, Cha-Cha, Rumba and Shag. [Self-Supporting] (0-3) 1

***HPE 1127 Social Dance—Advanced Beginner:** Upon completion of this course, students should be able to perform more difficult steps and types of dance, including the Tango, Samba, Waltz, and Shag.
*Prerequisite HPE 1126 or equivalent. [Self-Supporting] (0-3) 1

***HPE 1128 Social Dance—Intermediate:** Upon completion of this course, students should be able to add more difficult steps to the dances learned in HPE 1127. They will also learn to perform basic steps in the Charleston.
*Prerequisite: HPE 1127 or equivalent. [Self-Supporting] (0-3) 1

HPE 1130 American & English Country Dancing: Upon completion of this course, students should be able to dance the basic formations, steps, and figures of American & English Country Dancing; participate in life-long recreational activity of country dancing. Dancers walk, skip or waltz in circle, square or contra dance formations. (0-3) 1

HPE 1132 Weight Training: Upon completion of this course, students should increase their total body strength by at least 20%; be able to demonstrate and explain the differences between various strength training programs, including circuit training, pyramids, endurance training, and power training; establish a personal strength training program. (0-3) 1

HPE 1138 Clogging—Beginning: Upon completion of this course, students should be able to demonstrate the basic techniques of clogging, dance routines used by clogging teams, and should demonstrate improved rhythm. [Self-Supporting] (0-3) 1

HPE 1140 Self Protection for Women: Upon completion of this course, students should be able to identify the principles of personal self-defense; recognize and use alternatives for self-protection in an attack situation; recognize and avoid danger in the car, office, home, or other setting; demonstrate actual defense techniques. (0-3) 1

HPE 1147 Tennis—Beginning: Upon completion of this course, students should be able to demonstrate elementary skills for ground strokes, serve, volley, smash, and lob; identify rules and strategy for singles and doubles. (0-3) 1

***HPE 1148 Tennis—Intermediate:** Upon completion of this course, students should be able to demonstrate playing skill, perform specific shots, and game strategies.
*Prerequisite HPE 1147 or equivalent. (0-3) 1

***HPE 1149 Tennis—Advanced:** Upon completion of this course, students should be able to perform advanced shots, spins, pace, and strategy.
*Prerequisite HPE 1148 or equivalent. [Self-Supporting] (0-3) 1

HPE 1150 Exercise for the Handicapped: Upon completion of this course, students should be able to increase their level of fitness and demonstrate specific exercises relating to their individual needs. (0-3) 1

HPE 1164 Yoga—Beginning: Upon completion of this course, students should be able to demonstrate the basic principles of Yoga, including physical postures, proper breathing techniques, attitudes of positive thinking and confident self-awareness, and techniques to improve relaxation and mental concentration. (0-3) 1

***HPE 1165 Yoga—Intermediate:** Upon completion of this course, students should be able to demonstrate more detail on physical postures, breathing, relaxation and mental concentration.
*Prerequisite: HPE 1164 or equivalent. [Self-Supporting] (0-3) 1

***HPE 1166 Yoga—Advanced:** Upon completion of this course, students should be able to do advanced types of breathing and concentration using sounds, and demonstrate difficult physical postures.
*Prerequisite: HPE 1165 or equivalent. [Self-Supporting] (0-3) 1

HPE 1170 Aerobics: Upon completion of this course, students should be able to define aerobic exercise and identify basic components of a program; participate in activities leading to improved cardiovascular efficiency; identify risk factors associated with cardiovascular disease, and select and implement a personal aerobic exercise program. (0-3) 1

HPE 1174 Rock Climbing: Upon completion of this course, students should be able to demonstrate proper technique of rock climbing, bouldering, rappelling; demonstrate the correct method of belaying for climbing and rappelling. (0-3) 1

HPE 1175 Techniques of Lead Climbing: Upon completion of this course, students should be able to demonstrate strong and skillful technique in top-rope climbs and rappels of advanced difficulty; demonstrate secure placement of pieces of protection; explain and demonstrate all safety practices for advanced top-rope rock climbing. [Self-Supporting] (0-3) 1

HPE 1176 Introduction to Backpacking: Upon completion of this course, students should be able to identify the differences between high quality and poor quality backpacking equipment; identify proper conservation and ecological practices while in the woods; plan the meals for an overnight backpacking trip; demonstrate proper use of maps and compass. (0-3) 1

HPE 1177 Wilderness Skills: Upon successful completion of this course, students should be able to navigate in the woods using map and compass and permanent landmarks; plan and conduct a backpacking trip; demonstrate survival procedures. [Self-Supporting] (0-3) 1

HPE 1178 Horseback Riding—Beginning: Upon completion of this course, students should be able to demonstrate the fundamental skills of walking, trotting, cantering, jumping, and the etiquette of riding. (0-3) 1

HPE 1180 Orienteering: Upon completion of this course, students should be able to define various types of orienteering; recognize and draw at least 15 topographic map symbols; negotiate a cross-country orienteering course 3-5 km long in a specified time period. (0-3) 1

HPE 1182 Cross Country Skiing: Upon completion of this course, students should be able to demonstrate competently the following skills: diagonal stride, herringbone, snowplow, double pole single kick, and turning. (0-3) 1

HPE 1184 Swimming—Beginner: Upon completion of this course, students should be able to demonstrate treading water, back float, crawl stroke 20 yards, and safety skills. (0-3) 1

***HPE 1185 Swimming—Advanced Beginner:** Upon completion of this course, students should be able to demonstrate survival floating, elementary backstroke and crawl stroke.
*Prerequisite: HPE 1184 or equivalent. (0-3) 1

***HPE 1186 Swimming—Intermediate:** Upon completion of this course, students should be able to demonstrate four basic strokes—breast stroke, side stroke, crawl stroke, and back crawl; demonstrate scissors kick, breast stroke kick.
*Prerequisite HPE 1185 or equivalent. (0-3) 1

***HPE 1187 Swimming—Swimmer:** Upon completion of this course, students should be able to swim the breast stroke— 100 yards; side stroke—100 yards; crawl stroke—100 yards; back crawl—100 yards; and swim 10 minutes.
*Prerequisite: HPE 1186. (0-3) 1

HPE 1190 Introduction to Golf I: Upon completion of this course, students should be able to demonstrate the grip, stance, body posture; use of the putter, 9 and 7 irons. (0-3) 1

***HPE 1191 Introduction to Golf II:** Upon completion of this course, students should be able to demonstrate the use of the mid- and long-irons and woods. They should be able to identify game rules and etiquette, and put skills to use on a Par 3 course. (0-3) 1

***HPE 1192 Aerobics Advanced:** Upon completion of this course, students should be able to demonstrate advanced levels of participation in aerobic activities; show continued improvement in cardiovascular efficiency; develop and maintain an aerobic plan for personal use.
*Prerequisite: HPE 1170 or equivalent. (0-3) 1

HPE 1193 Slimnastics—Beginning: Upon completion of this course, students should be able to identify and demonstrate basic components of exercise, personal exercise needs, precautions, and benefits of an exercise program. (0-3) 1

***HPE 1194 Slimnastics—Intermediate:** Upon completion of this course, students should be able to demonstrate measured change in endurance, flexibility, and strength; design a personal exercise program. (0-3) 1

***HPE 1195 Slimnastics—Advanced:** Upon completion of this course, students should be able to identify and perform specific exercises; recognizie motivating factors in beginning and maintaining an exercise program; demonstrate continued advancement in components of exercise.
*Prerequisite: HPE 1194 or equivalent. (0-3) 1

HPE 1196 Gymnastics—Beginning: Upon completion of this course, students should be able to discuss gymnastic safety procedures; demonstrate a stretching and warm-up session for selected gymnastic apparatus; demonstrate basic moves in floor exercise, trampoline, unevens, parallel bars, beam, and rings. (0-3) 1

***HPE 1197 Gymnastics—Intermediate:** Upon completion of this course, students should be able to discuss and demonstrate spotting technique for beginning and intermediate skills on all pieces of equipment; demonstrate a beginning to intermediate level routine on selected pieces of apparatus; discuss the elements of a routine. (0-3) 1

HPE 1198 Bowling—Begining: Upon completion of this course, students should be able to identify skills, rules, and strategy. (0-3) 1

HPE 1200 Creative Arts in Recreation: Upon completion of this course, students should be able to plan music and dance programs for various ages in a recreational setting; describe how to utilize basic drama skills in elementary dance and dramatic activities. (1-3) 2

***HPE 1203 Water Safety Instructor** Upon completion of this course, students should be able to demonstrate beginner skills, swimming strokes, and lifesaving skills.
*Prerequisite: HPE 1186 or equivalent. (1-3) 2

HPE 1214 Pool Maintenance and Water Related Activities: Upon completion of this course, students should be able to demonstrate skill in specific aquatic activities; identify elements of a camp waterfront area program; identify safety precautions in water activities; list the principles of organizing an aquatic program and its operation and maintenance. (1-3) 2

HPE 1215 Lifeguard Training: Upon completion of this course, students should be able to identify hazards associated with aquatic facilities; recognize a person in a distress situation and effectively rescue that person; operate a pool filter system, and direct a waterfront. (1-3) 2

HPE 1404 Introduction to Recreation: Upon completion of this course, students should be able to identify the historical and philosophical foundations of recreation and leisure; list the definitions and current trends in recreation; explain the role of government (local, state, national) in establishing recreation and leisure services at their respective levels; identify prospective career and professional areas in recreation. (3-3) 4

HPE 1405 Team Sports and Games in Recreation: Upon completion of this course, students should be able to demonstrate a knowledge of recreational activities suited to the needs, interests and skills of various age groups with emphasis on games, stunts, relays, and rhythmic activities; implement these activities for playgrounds, schools, and recreational areas. (3-3) 4

HPE 2100 Bicycling: Upon completion of this course, students should be able to select a bicycle suitable to their size and needs; repair and maintain a bicycle in its entirety; state the legal rights of a bicyclist; maneuver a bicycle safely around obstacles; ride a bicycle safely in traffic; know what equipment is necessary for a safe bicycle tour. (0-3) 1

***HPE 2112 Canoeing—Basic:** Upon completion of this course, students should be able to demonstrate safe handling skills, self-rescue skills, and ways to apply the basic skills. They should be able to name the parts of a canoe and be able to perform the following strokes: bow, sculling, reverse sculling, sweep, reverse sweep and J.
*Prerequisite: HPE 1184 or equivalent. (0-3) 1

***HPE 2113 Canoeing—Rivers:** Upon completion of this course, students should be able to define rocher, beam and displacement; demonstrate self rescue; discuss safety considerations for canoeing; define and demonstrate eddy turn, peel out and feel in moving current; identify six river obstacles.
*Prerequisite: HPE 2112 or equivalent. (0-3) 1

***HPE 2114 Canoeing—Basic White Water:** Upon completion of this course, students should be

able to demonstrate skills in maneuvering around objects, backferrying, eddy turns, peel outs, and self-rescue techniques in class II and III rapids while paddling both tandem and solo; distinguish between the classes of whitewater, and discuss how to scout a rapid.
*Prerequisite: HPE 2113 or equivalent. (0-3) 1

***HPE 2115 Introduction to Kayaking:** Upon completion of this course, students should be able to demonstrate various skills such as forward and reverse stroke, forward and reverse sweep and Eskimo roll; perform self-rescue and demonstrate safe practices in a kayak.
*Prerequisite: Swimming proficiency. (0-3) 1

***HPE 2116 Whitewater Kayaking:** Upon completion of this course, students should be able to execute a river roll, skillfully and safely negotiate all class II and some class III rapids; be able to rescue a kayak and kayaker, and self rescue in class II rapids.
*Prerequisite: HPE 2115 or equivalent. (0-3) 1

HPE 2200 Sports Officiating: Upon completion of this course, students should be able to identify responsibilities of officiating; identify rules of the game; demonstrate good mechanics of officiating; demonstrate alertness, good judgment, and decisiveness in calls; demonstrate poise; demonstrate consistency, and good reaction time in calls. (1-3) 2

HPE 2305 Program Planning in Recreation: Upon completion of this course, students should be able to implement the basic elements of a recreation program, including community assessment; prepare a budget, complete a program evaluation, and exhibit a basic understanding of the concept and principles of the importance of public relations. (2-3) 3

HPE 2306 Principles of Physical Fitness: Upon completion of this course, students should be able to identify personal fitness needs; explain the effect of exercise on the cardiovasular system; plan an exercise program for personal use and for all age groups. (2-3) 3

HPE 2307 Organization and Management in Recreation: Upon completion of this course, students should be able to identify the administrative concept of personnel management, public relations, and finance in recreation; identify organizational structures and operational procedures of agencies offering recreational services; demonstrate skills in application of principles of administration in recreation agencies. (2-3) 3

HPE 2314 Lifetime Activities: Upon completion of this course, students should be able to list rules of specific individual activities such as archery, golf, and tennis; demonstrate all skills involved in the activities; set up and organize a program in community involving individual activities; demonstrate techniques of teaching skills to others; evaluate effectiveness of program organized. (2-3) 3

HPE 2325 Introduction to Outdoor Recreation: Upon completion of this course, students should be able to detail the handling of an emergency situation in the wilderness (first aid and environmental); discuss staffing and outdoor program; plan an outdoor trip, and establish a risk management plan. (2-3) 3

HPE 2404 Facility Maintenance and Design: Upon successful completion of this course, students should be able to state the procedures of facility management; identify major aspects of maintenance of a facility; identify equipment and inventory control procedures; describe facility use and do scheduling, equipment and inventory control; identify and make suggestions for correcting problem situations in architectural barriers. (3-3) 4

HPE 2405 Leadership and Supervision in Recreation: Upon successful completion of this course, students should be able to identify leadership techniques and skills and strategies in recreation; be able to discuss the role of the leader in the public, voluntary, commercial, and other recreation areas; be able to practice role playing, interviewing, recruiting and training volunteers and group control; observe community leaders and evaluate their effectivenesss in supervision and leadership in recreation. (3-3) 4

HPE 2434 Recreation and Special Populations: Upon completion of this course, students should be able to identify recreation services already available to special populations; list principles of recreation programming; design a plan for selected groups. (3-3) 4

***HPE 3110 Cooperative Education I:** Upon completion of this course, students should be able to exhibit competent performance of assigned job related skills; evaluate potential for advancement and employment in the field of recreation; identify responsibilities and requirements of successful employment.
*Prerequisite: Permission of department head. (0-10) 1

***HPE 3210 Cooperative Education II:** Upon completion of this course, students should be able to exhibit competent performance of assigned job-related skills; evaluate potential for advancement and employment in the field of recreation; identify responsibilities and requirements of successful employment.
*Prerequisite: permission of department head. (0-20) 2

Hotel/Restaurant Management

HRM 3104 Speaker Seminar I: Upon completion of this course, as a result of field trips, guest speakers and lecturers, students should be able to perform with greater competence in the particular work-related skills involved in the specific jobs observed; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee. (1-0) 1

HRM 3105 Speaker Seminar II: A continuation of Speaker Seminar I. Upon completion of this course, as a result of field trips, guest speakers and lecturers, students should be able to perform with greater competence in the particular work-related skills involved in the specific jobs observed; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee; demonstrate managerial problem-solving ability. (1-0) 1

HRM 3300 Introduction to Hotel/Restaurant Management: Upon completion of this course, students should be able to compare the present-day operations of inns and restaurants to those of the past; define the different types of restaurant and food services; identify the positions within hotels and restaurants; compare the departments within a hotel and restaurant; distinguish between franchise and individually owned properties; assess future opportunity in a challenging and rewarding career with the hospitality industry. (3-0) 3

HRM 3301 Financial and Legal Aspects of Innkeeping: Upon completion of this course, students should be able to assemble and organize a system to prevent lawsuits and losses costly to today's inns; relate local, state, and federal regulations to operations of a modern inn; describe different instruments of finance that are used in the operation of a modern inn. (3-0) 3

HRM 4200 Topics in Hotel/Restaurant Management: Students will conduct career-related projects as described in the training plan. The training plan, designed to meet needs not met by other offerings, will be developed by the program director and an appropriate training sponsor in the business community. Each student will work under the direct supervision of the program director. Approval of the sponsor, division head, and appropriate vice president is required. TBA

HRM 4300 Hotel/Restaurant Marketing: Upon completion of this course, students will be able to organize a marketing schedule for future use; assemble positive sales ideas; prepare property and market analyses; prepare a sales forecast; develop a sales promotion for a particular property. (3-0) 3

HRM 4301 Housekeeping Procedures: Upon completion of this course, students should have demonstrated the ability to plan an organized area for the housekeeping department; implement a time study and procedures standard for cleaning a motel room; identify hazards in a motel; develop standards and procedures for purchasing and inventory controls; implement procedures for the reporting of repairs and preventive maintenance needs. (3-0) 3

HRM 4302 Hotel/Restaurant Management Related Problems: Upon completion of this course, students should be able to compare circumstances of hotel/restaurant operations to everyday work situations; institute a workable plan to control and maintain good employee morale; write and identify standards of dress and conduct. Through role playing and analysis, students will become familiar with actual situations which will be encountered in future employment. (3-0) 3

HRM 4400 Restaurant Service Management: Upon completion of this course, students should be able to identify the different stations and responsibilities of good service; identify and purchase proper equipment in Dining Room set-up; demonstrate practical sanitation and safety procedures; demonstrate to others the proper methods of being a waiter/waitress; set-up guidelines for future management of dining rooms. (2-6) 4

HRM 4304 Practicum I: Upon completion of this course, students should be able to exhibit positive work attitudes and write job descriptions for the departments within the hotels/ motels assigned during clinical experience. Lab or clinical experience will consist of on-the-job training within the following areas: Housekeeping, Superintendent of Transportation and Services, Maintenance, and Front Office. (3-20) 5

HRM 4305 Practicum II: A continuation of Practicum I with continued emphasis on work attitudes and job descriptions. Students will be assigned to the restaurant of a hotel/ motel and will cover the following areas: Dishwashing Department, Salad Department, Cook's Helper, Chef's Helper, Chef's Assistant, Dining Room—Busboy, Dining Room—Waiter/Waitress, and Bar/Lounge Bartender. (3-20) 5

Humanities

Also see English—Literature

HUM 1300 The Ascent of Man: This course is based on the Bronowski film series and taught by a team of instructors representing several disciplines. Upon completion of the course, students should be able to identify important scientific thinkers and their discoveries; be familiar with the influence of scientific discoveries on humanistic thinking; have an understanding of science as an important factor in human social and cultural evolution. (3-0) 3

HUM 1319 Mythology: This course is a study of myths and legends, chiefly Greek and Roman. Upon completion of this course, students should be familiar with the myths; be able to assess the influence of myths on art, custom and tradition; recognize the impact of myths on contemporary thought. (3-0) 3

HUM 1329 Russian Literature and Culture: Upon completion of this course, students should be able to demonstrate a general knowledge of Russian culture as revealed in selected readings, lectures, and audio-visual presentations. They should be able to demonstrate an awareness of geographical, historical, and political factors affecting life and the arts in the Soviet Union. (3-0) 3

HUM 1500 Humanities—Classical to Medieval: Students should become aware of the humanities as the record—in literature, art, sculpture, architecture, music, and philosophy—of answers by humankind to the fundamental questions of existence, and acquire an appreciation of them as such; be able to recognize the values held by humankind as they are reflected in the humanities from classical to medieval times, and assess the validity which the contributions of the past have for the present; be able to identify the major writers, musicians, artists, architects, and sculptors of the period studied; have some familiarity with their respective contributions to civilization. (5-0) 5

HUM 1501 Humanities—Renaissance to Present: Students should become aware of the humanities as the record—in literature, art, sculpture, architecture, music, and philosophy—of answers by humankind to the fundamental questions of existence, and acquire an appreciation of them as such; be able to recognize the values held by humankind as they are reflected in the humanities, and assess the validity which the contributions of the past have for the present; be able to identify the important writers, musicians, artists, architects, and sculptors of the period studied; have some familiarity with their major contributions to civilization. (5-0) 5

***HUM 2320 Special Topics:** An advanced course in which students and an instructor select a topic for in-depth study.
*Prerequisite: Approval of the sponsoring instructor and the department head. (3-0) 3

Human Resources Development

HRD 6001 Self-Directed Job Search: In this course, students learn the skills needed to obtain employment. On completion of this course, students should be able to complete an employment application correctly, write a resume, find job leads, and perform well in interviews.

***HRD 6002 Bank Teller Training:** In this course, students learn the skills necessary for entry-level employment as a bank teller. On completion of this course, students should understand: currency/cash control, balancing, security procedures, customer relations, cross-selling.
*Prerequisite: Teller Placement Test.

HRD 6004 Job Seeking Skills: This course emphasizes the job seeking skills necessary for those who are interested in career change and/or those skills pertaining tothe older adults who wishes to gain meaningful employment. Upon completion, students should be able to identify their transferrable skills, prepare a resume, and present themselves more positively in an interview.

HRD 6006 10 Key/CRT Training: Upon completion of this course, students should be able to enter numbers on an electronic calculator by touch, and demonstrate the basic skills necessary to enter informa-

tion into a computer terminal in customer service-related employment.
*Prerequisite: 10 Key/CRT Placement Test.

Human Services

HSA 3105 Fingerspelling: Upon completion of this course, students should be able to identify the fingerspelled word in context at an average of 75% or better; identify the number in context at an average of 75% or better; fingerspell fluently, glossing the word, not the letters. (0-2-0) 1

***HSA 3106 Sign to Voice Lab:** Upon completion of this course, students should be able to demonstrate the ability to comprehend the appropriate content and intent of the signed messages with a 75% accuracy or better.
*Prerequisite: HSA 3514 or instructor consent. (0-2-0) 1

HSA 3121 Special Issues Related to Children I: Upon completion of this course, students should be able to discuss current data of a specific issue related to children and families; identify and describe specific causes related to a specific issue; describe preventive and remedial strategies related to a specific issue; identify specific human resources available to assist children and families in need. (1-0-0) 1

HSA 3202 Crisis Intervention: Upon completion of this course, students should be able to identify and discuss the emotional and physical bases of stress/anxiety; identify and define real-life crises of alcohol and drug abuse, bereavement, suicide, grief and loss, individual and group psychiatric emergencies, and special problems; identify and discuss the major factors and characteristics of a disaster and community crisis to include psychological shock, disaster syndrome, variation of victim reaction, and psychological epidemic; identify appropriate methods of crisis intervention; demonstrate appropriate skills of crisis intervention. (2-0-0) 2

HSA 3221 Special Issues Related to Children II: Upon completion of this course, students should be able to discuss current data of a specific issue related to children and families; identify and describe specific causes related to a specific issue; describe preventive and remedial strategies related to a specific issue; identify specific human resources available to assist children and families in need. (2-0-0) 2

***HSA 3304 Sign Systems and Specialized Vocabulary for Interpreters:** Upon completion of this course, students should be able to demonstrate expressive and receptive ability with specialized vocabulary with an accuracy of 75% or better; place language samples along a continuum from English to ASL and explain rationale; identify and differentiate various sign systems; demonstrate ability to discuss various sign systems' characteristics; demonstrate ability to identify prefixes and suffixes when they appear in text.
*Prerequisite: HSA 3345 or instructor consent. (3-0-0) 3

HSA 3305 Introduction to Interpreting: Upon completion of this course, students should be able to define interpreting terms; list and discuss the RID Code of Ethics; show and explain rationale for the placement of interpreters for varied interpreter settings; list and discuss the environmental factors which must be considered in an interpreting assignment; describe the assessment and certification process; report and obtain pertinent information for interpreting assignment. (3-0-0) 3

HSA 3306 Linguistics of Interpreting: Upon completion of this course, students should be able to identify and define processes of interpreting and related terms; identify and demonstrate exercises that improve skills in the various processes of interpreting; identify and interpret the meaning of various visual and auditory stimuli; critique their own skills, identify areas of weakness, and match them with exercises to help improve those areas. (3-0-0) 3

HSA 3310 The Exceptional Child: Upon completion of this course, students should be able to identify and discuss characteristics of developmental exceptionalities; identify community and state resources available for families with exceptional children; identify a variety of activities appropriate for children who are exceptional in personality and/or physical development; identify ways exceptional children use materials, supplies, and equipment differently than other children; identify techniques of working with parents to help reduce their apprehensions about their child's condition; define the procedures for referring a child to special services. (3-0-0) 3

HSA 3311 Materials and Activities for the Young Child: Upon completion of this course, students should be able to describe the role of play and play materials in the development of the young child; describe the teacher's role in fostering and guiding children's creative ability; identify raw art materials, their potential and use with the young child; identify the principles and practices of music, movement, sound, and rhythm for the young child; identify the process of language development through the use of children's books, story-telling, dramatization; identify appropriate science and math experiences and materials; identify and discuss techniques for implementing a stimulating outdoor learning environment; describe and discuss the importance of manipulative toys and blocks in the development of the young child. (3-0-0) 3

HSA 3321 Special Issues Related to Children III: Upon completion of this course, students should be able to discuss current data of a specific issue related to children and families; identify and describe specific causes related to a specific issue; describe preventive and remedial strategies related to a specific issue; identify specific human resources available to assist children and families in need. (3-0-0) 3

HSA 3324 Conversational Sign Language I: Upon completion of this course, students should be able to converse on a one-to-one basis with a hearing-impaired individual in a work or social environment; demonstrate a basic knowledge of techniques which make communicating with a hearing-impaired person more effective; demonstrate a practical sign vocabulary of core and specialized signs of between 300-350 words. (3-0-0) 3

***HSA 3325 Conversational Sign Language II:** Upon completion of this course, students should be able to converse with a hearing-impaired individual in a work, school, home, business, and social environment; demonstrate an advanced knowledge of communication techniques; demonstrate a practical sign vocabulary of core and specialized signs of between 500-750 words; demonstrate receptive and expressive fingerspelling and numbers skills.
*Prerequisite: HSA 3324. (3-0-0) 3

***HSA 3326 Advanced Materials and Activities for the Young Child:** Upon completion of this course, students should be able to expand on the basic file box of activities begun in HSA 3311, which will include at least 20 art activities, 20 songs and 20 other musical activities, titles and summaries of 20 appropriate books for young children, 20 finger plays, and 20 other language-related activities, 20 appropriate science activities, 20 appropriate math activities, 10 outdoor experiences that will expand the young child's learning, 10 suggestions for stimulating play in the block corner, 10 suggestions for teacher-made manipulative materials; demonstrate the understanding of activities appropriate for different developmental levels (through the activities selected for the file box); plan, organize, and carry out a teaching unit which will include all of the stated areas; demonstrate the knowledge of the teacher's role in fostering and guiding children's creative ability; demonstrate the capacity to foster and guide young children's creative ability.
*Prerequisite: HSA 3311 or permission of program director. (3-0-0) 3

***HSA 3340 Client Group Dynamics:** Upon completion of this course, students should be able to demonstrate their own style of group leadership in working with client groups; identify various behavioral roles of clients within groups; demonstrate methods of motivating clients and resolving conflicts within client group interactions.
*Prerequisite: HSA 3501, HSA 3502, or consent of program director. (3-0-0) 3

***HSA 3341 Interpersonal Relationships II:** Upon completion of this course, students should be able to distinguish between assertive, passive, and aggressive behaviors; develop their own assertive skills and demonstrate the use of these skills in professional and personal behavior.
*Prerequisite: HSA 3501, HSA 3502, or consent of program director. (3-0-0) 3

HSA 3360 Understanding Adolescence: Upon completion of this course, students should be able to differentiate major developmental characteristics associated with pre-adolescence, early adolescence, late adolescence changes; identify and describe specific characteristics of the adolescent in the areas of physical, cognitive, social, emotional, and moral development; identify and discuss the inter-relationship between the social, emotional, cognitive, and physical development of the adolescent; identify and describe social and familial factors which prevent and encourage maximum growth and development of the adolescent. (3-0-0) 3

HSA 3400 Guidance for Young Children: Upon completion of this course, the student should be able to define and differentiate indirect and direct guidance; describe factors in teacher arrangement of classroom time and space which indirectly guide children's behavior; identify and discuss a range of appropriate direct guidance techniques which facilitate the development of self-concept; discuss teacher guidance during routine times of the day, i.e., mealtime, bathroom, and nap times. (3-0-3) 4

***HSA 3403 Introduction to Day Care Administration:** Upon completion of this course, students should be able to describe the steps involved in setting up child care programs according to state and federal guidelines; describe the management practices required in quality child care programs including fiscal budgets, records, ordering of supplies, equipment, scheduling, operational policies; describe personnel practices required in quality child care programs, including job descriptions, interviewing

techniques, staff evaluations, staff development; describe parent and community resources available to child care centers.
*Prerequisite: program director approval. (3-0-3) 4

HSA 3414 Helping Relationship, Advanced Technique: Upon completion of this course, students should be able to identify and distinguish appropriate responses in the initial and continuous helping relationships, to include helper assertiveness and client motivation; discuss the force-field analysis of problem solving, to include identifying and clarifying the client's problems and establishing the client's priorities, establishing client's goals and implementing tasks, reviewing and evaluating the client's progress; demonstrate a more effective skill of helping by the use of feeling discrimination, concreteness, confrontation and alternative action, decision making, and problem solving.
*Prerequisite: HSA 3604. (3-0-3) 4

HSA 3421 Helping and Behavioral Stress: Upon completion of this course, students should be able to identify and discuss the major factors of behavioral and physical development relating to stress/anxiety; identify and define positive and negative factors of stress and identify methods for defining and coping with individual anxiety; identify and define real-life crises of alcohol and drug abuse, suicide, bereavement, grief and loss, maturation, the family, and individual psychiatric emergencies; define and discuss the association to crisis/stress of anxiety, defense mechanisms, values and belief systems, needs, and cultural and environmental influences; identify and discuss the major factors and characteristics of a disaster and community crisis, to include psychological shock, disaster syndrome, variation of victim reaction, and psychological epidemic; identify methods of psychological helping for persons in crisis and appropriateness of such crisis intervention to specific behavioral problems; demonstrate skills of coping with individual anxiety/stress and of helping a stress victim(s), both in non-verbal and verbal response; identify various local agencies dealing with crisis and discuss their function and methods of referral and treatment. (4-0-0) 4

HSA 3501 Introduction to HSA: Upon completion of this course, students should be able to describe the Human Services program, including the three option areas: give the four core courses, describe their content and explain the rationale for inclusion as core courses; given an option area, name at least three agencies related to it and describe the type of clients referred to these agencies; describe correctly the procedure for being advised and contracting for field placement; identify the following specific major client groups and the various stresses caused by social, emotional, and physical characteristics associated with each group: Mental Health, Emotionally Disturbed, Alcoholism, Drug Abuse, Sexuality, Mental Retardation and Brain Damage, Epilepsy, Learning Disabilities, Visual Impairment, Hearing and Speech Impairment, Physical Disabilities, Aging; identify specific agencies which offer services to the above client groups.
*Prerequisite: permission of program director only. (5-0-0) 5

HSA 3502 Interpersonal Relationships I: Upon completion of this course, students should be able to demonstrate five skills of non-verbal communications; demonstrate five skills of verbal communications; identify and list at least three personal strengths and three weaknesses in relationships with others; identify five personal values; identify four personal behavioral goals; demonstrate ability to change two identified negative behaviors and develop two identified positive behaviors; list and describe Maslow's Hierarchy of Needs; list Erikson's eight stages of development; list and describe Powell's five levels of communication; identify and describe five games people play and the defense mechanism involved in each.
*Prerequisite: HSA 3501 or consent of program director. (5-0-0) 5

HSA 3510 School Age Child Care: Upon completion of this course, students should be able to describe the growth and development of the school aged child, with emphasis on the middle and late childhood years; identify the physical, social, emotional, and intellectual needs of the school aged child; describe the principles underlying an after-school care program; plan particular segments of a program for the school aged child; implement particular segments of a program for the school-aged child.
*Prerequisite: program director consent. (3-0-6) 5

HSA 3511 Infant and Toddler Development: Upon completion of this course, students should be able to describe the normal growth and development of the infant; identify the needs of the developing infant; describe the normal growth and development of the toddler; identify the needs of the developing toddler; list and discuss the principles underlying a program for infants and toddlers; plan particular segments of a program for infants and toddlers; implement particular segments of a program for infants and toddlers.
*Prerequisite: program director consent. (3-0-6) 5

HSA 3514 Interpreting I: Upon completion of this course, students should be able to demonstrate accuracy and clarity in expressive interpreting and translating at a speed of 60-80 words per minute; a minimum ability in receptive skills of 40-60% under-

standing of the signer's intent and general content of the signed message; through role play, actual experience, and written tests a practical awareness of interpreting in educational, deaf/blind, and religious interpreting; expressive and receptive fingerspelling accuracy and clarity on a beginning level (60%) as indicated by skills tested.
*Prerequisite: HSA 3545 and HSA 3518 or instructor consent. (2-6-0) 5

***HSA 3515 Interpreting II:** Upon completion of this course, students should be able to demonstrate accuracy and clarity in expressive interpreting and translating at a speed of 80-100 WPM; a receptive ability in understanding intent and content in the signed message of a deaf speaker at a rate of 60-74%; through role play, actual experience, and written tests, a practical awareness of interpreting in V.R., community agencies, and interview situations; the responsibilities of the interpreter; the appropriate physical setting; the special vocabulary, ethics; through role play and actual experience, a practical awareness of artistic and platform interpreting; expressive and receptive fingerspelling at an intermediate (60-80%) level as indicated by skills tests.
*Prerequisite: HSA 3514 or instructor consent.
(2-6-0) 5

***HSA 3516 Interpreting III:** Upon completion of this course, students should be able to demonstrate accuracy and clarity in expressive interpretating and translating at a speed of 100-125 words per minute; a receptive ability in understanding the intent of deaf signers at a rate of 75-100%; through role play, actual experience, and written tests, a practical awareness of interpreting in legal, medical, and oral situations; receptive and expressive fingerspelling clarity and accuracy as indicated by skills test.
*Prerequisite: HSA 3515 or instructor consent.
(2-6-0) 5

***HSA 3517 Sign to Voice Interpreting:** Upon completion of this course, students should be able to demonstrate a receptive ability to communicate the appropriate content and intent of deaf signers into correctly spoken English at a level of 60-74%; a receptive ability to communicate the appropriate mood, sign inflection, and emotional intent of deaf signers into vocally expressive English at a level of 60-74%; through role play and written tests, a practical awareness of the R.I.D. Code of Ethics as it pertains to sign to voice interpreting; awareness of the principles of lip reading and how those principles aid in sign to voice interpreting, as indicated by skills tests; a receptive ability to communicate fingerspelled words into spoken English at a level of 64-74%.
*Prerequisite: HSA 3515 or instructor consent.
(2-6-0) 5

***HSA 3518 Interpreting Idioms:** Upon completion of this course, students should be able to demonstrate a working competence with approximately 200 basic sign language idioms, as shown in both written tests and expressive signing with an average of better than 75%; the ability to discuss the sociological implications of deafness.
*Prerequisite: HSA 3544 or instructor consent.
(5-0-0) 5

HSA 3544 Sign Language I: Upon completion of this course, students should be able to demonstrate communication skills on a non-technical level with members of the deaf population in both expressive and receptive American Sign Language; interact with deaf persons on a one-to-one basis; demonstrate an awareness and relate to the difficulties of a deaf person growing up in a hearing society; demonstrate a practical sign vocabulary of 300-375 words. (5-0-0) 5

***HSA 3545 Sign Language II:** Upon completion of this course, students should be able to demonstrate accuracy and clarity in fingerspelling with an average of better than 75% on both expressive and receptive tests; demonstrate a practical sign vocabulary of 500-750 words; apply grammatical principles of ASL as demonstrated on tests with 75% accuracy or better; discuss deaf culture and list things which support and define that culture.
*Prerequisite: HSA 3544 or instructor consent.
(5-0-0) 5

***HSA 3600 Community Organization and Casework Preparation:** Upon completion of this course, students should be able to identify and define a Human Services paraprofessional; identify and describe roles and correlated activities that an HSA worker might play in social change in a local neighborhood or community; identify and describe the philosophies, measures, and procedures used in vocational and social rehabilitation of the physically and mentally disabled; identify and describe the scientific method of problem solving; identify the members of the professional teams used in human services agencies and describe their backgrounds and functions; identify the major organizational structure of human resources at federal, state and local levels, to include functions and practices; identify and describe strengths and weaknesses of current delivery systems; observe behavior and record significant observations in simple descriptive form; identify documents in a case file and basic forms used in various agencies; identify facilitative methods of questioning in a helping interview; identify various non-verbal and verbal cues in a helping inter-

view; demonstrate the use of appropriate questions, statements, and non-verbal responses in a helping interview.
*Prerequisite: HSA 3340 and HSA 3341.
(3-0-9) 6

***HSA 3604 Helping Relationship—Technique:** Upon completion of this course, students should be able to discuss the Model of Facilitation, identifying the levels of a helping relationship and their characteristics as found in the Model; identify non-verbal communication behaviors of time, body, and voice and discuss their effect in the helping relationship; identify closed and open questions and discuss their use in the helping relationship; identify and distinguish appropriate and inappropriate responses and leads; demonstrate effective use of appropriate responses and leads.
*Prerequisite: HSA 3600 or permission of program director. (3-0-9) 6

HSA 4103 Stress Management: Upon completion of this course, students should be able to define stress as it occurs in both personal and professional situations; identify methods for assessing stress and for managing stressful situations; evaluate individual stress and coping patterns. (1-0-0) 1

HSA 4300 Hearing and Deafness: Upon completion of this course, students should be able to relate the nature and perception of sound to the sense of hearing; identify the major parts of the ear and the function of each part; classify hearing losses according to auditory dysfunctioning; describe some common causes of deafness; identify various medical/surgical treatments of hearing losses; identify the roles of the various professionals and paraprofessionals involved in the diagnosis and treatment of hearing losses.
(3-0-0) 3

HSA 4304 Orientation to Deafness: Upon completion of this course, students should be able to trace the changing attitudes toward and treatment of the deaf in Europe and America from 300 B.C. to the 20th Century; compare and contrast the mental development, emotional adjustment, and social maturity of hearing-impaired and hearing individuals; demonstrate and evaluate various communication methods used in the education of the deaf. (3-0-0) 3

HSA 4310 Adult/Child Relations: Upon completion of this course, students should be able to identify principles underlying the development of a positive self-concept in young children; identify and demonstrate effective listening skills, i.e., active listening, essential to positive one-to-one interaction and positive small group interaction with young children; identify and demonstrate effective listening and communication skills essential to positive (job related) interaction with parents and staff in a variety of situations. (3-0-0) 3

***HSA 4500 Working With Parents:** Upon completion of this course, the student should be able to list and discuss three specific benefits for each of parent, teacher, and child in establishing and maintaining a postive relationship with parents; identify and demonstrate at least eight effective strategies for teachers to communicate with parents; identify and discuss at least five methods for involving parents in programs for children; demonstrate through role paly and evaluations, knowledge of the purpose of paraent conferences and at least six effective techniques used in conducting conferences; demonstrate skills in preparing materials for parents, i.e., newsletters, bulletin boards; identify and discuss particular needs of families experiencing stress: i.e., parents of infants, of exceptional children, parents involved in abuse and neglect, or experiencing divorce and separation; identify and describe at least five appropriate community agencies to which teachers can refer parents who need particular assistance.
*Prerequisite: Program director or instructor approval.
(3-0-6) 5

HSA 4505 Helping Relationship Theory: Upon completion of this course, students should be able to identify the basic principles of various techniques used in helping, to include: Psychoanalysis, Existential-Humanistic, Behavior Modification, Transactional Analysis, Rational-Emotive, Client-Centered, Gestalt, Reality, Group, and others; discuss the theory of human behavior which forms a basis for each technique; identify major founders/contributors to each theory/technique; describe how each technique is used with clients, identifying advantages and disadvantages, positive and negative aspects, of each technique; compare and contrast the various theories and techniques. (5-0-0) 5

***HSA 4508 Seminar:** Upon completion of this course, students should be able to discuss thoroughly the work experience in the student's specialty area; discuss the procedures, treatment methods, and service techniques of the agency where the student interns; complete an in-depth research project as a major contribution to the student's Human Service program selected in consultation with the instructor; maintain fifteen hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship.
*Prerequisite: By permission of program director only. (1-0-12) 5

***HSA 4509 The Preschool Teacher in the Classroom:** Upon completion of this course, the student should be able to demonstrate an understanding of the nature of teaching as facilitating learning; identify the experiences, media, and facilities which promote optimal development in the preschool classroom; describe and demonstrate the specific appropriate behaviors of a teacher in the role of facilitating in the various learning centers; plan and implement appropriate activities for young children in the curriculum areas of art, dramatic play, science, outdoor play and group time.
*Prerequisite: by permission of program director. (3-0-6) 5

HSA 4511 Introduction to Social Welfare: Upon completion of this course, students should be able to define social welfare and its relationship to social work in the United States; discuss the social, historical, and political development of the American Social Welfare System and its institutions; identify and discuss recent trends in social welfare, including the identification of current legislation (laws, bills) affecting the system; discuss the basic characteristics of American society which contribute to the breakdown of individual and family self-care; discuss the condition and extent of poverty in the United States today and current programs, both in operation and proposed, aimed at the alleviation of poverty and related social conditions. (5-0-0) 5

HSA 4524 Helping Interview I: Upon completion of this course, students should be able to demonstrate self-awareness and identify the concepts of worker-client interaction through value clarification of the agency/program clientele, and the helping process; identify and demonstrate good attending skills and the use of appropriate questions to elicit information; identify and demonstrate the stages of a helping interview; identify and demonstrate skills of listening, feedback, and feeling discrimination toward the client; identify methods of client referral to other services and/or agencies. (2-0-9) 5

HSA 4609 Caseload Management: Upon completion of this course, students should be able to describe the human services worker caseload, its rules and procedures, and management within the total system; describe the human services administrative environment and the pressures it places on the worker; describe methods for prioritizing a caseload, planning, and delegation; describe methods for effective time management. (3-0-9) 6

***HSA 4614 Practical Problems of Child Care II:** Upon completion of this course, students should be able to identify and describe the principles underlying a pre-school program which supports the developmental needs of the whole child; describe and implement effective techniques in observing and assessing the developmental needs of young children, i.e., anecdotal records, Koontz Child Developmental Program; describe and implement effective techniques in evaluating pre-school environments in relation to the developmental needs of young children, i.e., classroom assessment tool, teacher assessment tool; plan segments of a daily program for a group of young children; implement segments of a planned daily program for a group of young children.
*Prerequisite HSA 3400, HSA 4509. (2-0-12) 6

HSA 5200 Human Relations: Upon completion of this course, students should be able to demonstrate self awareness and personal growth by listing five or more new things that they have learned about themselves, and five or more ways in which they have changed; identify at least five of the things in life they value; demonstrate skills for effective communication with others, such as listening, empathy; list ten defense mechanisms and discuss the ones each student uses; list five or more goals and decisions they have made during the course; discuss at least five ways to put into practice on a future job some of the human relations skills learned during the course. (2-0-0) 2

***HSA 5500 Practical Problems of Child Care I:** Upon completion of this course, students should be able to demonstrate effective techniques for working with children, i.e., showing respect for children as individuals with unique growth patterns and the ability to approach each child as a person of worth; identify the various roles of the teacher as a facilitator of learning, as a model for children, and as a guide of children, using both direct and indirect techniques; demonstrate effective techniques to use when developing satisfactory patterns of interacting with parents and staff; describe the curriculum for young children and identify the experiences, media, and facilities which promote optimal development and self-discipline (self-knowledge).
*Prerequisite or corequisite: HSA 5501. (3-0-6) 5

***HSA 5501 Child Development:** Upon completion of this course, students should be able to identify the stages of the young child's development; identify and discuss the interrelationship between the social, cognitive, emotional, and physical development of the child; identify and describe factors which prevent and encourage maximum growth and development of the child; identify and describe the characteristics of the child at different stages in the areas of social, cognitive, emotional, language, moral, and physical development; discuss the importance of play to the child's total development. *(over)*

*Prerequisite: program director or instructor approval. (3-0-6) 5

***HSA 5510 CDA Practical Lab I—Setting Up and Maintaining a Healthy Learning Environment:** Upon completion of this practical lab experience, students should be able to organize space into functional areas recognizable by the children, e.g., block building, library, dramatic play; etc., maintain a planned arrangement for furniture, equipment, and materials and for large and small motor skills learning, and for play materials that are understandable to the children; organize the classroom so that it is possible for the children to be appropriately responsible for care of belongings and materials; arrange the setting to allow for active movement as well as quiet engagement; take preventive measures against hazards to physical safety; keep light, air, and heat conditions at best possible levels; establish a planned sequence of active and quiet periods, of balanced indoor and outdoor activities; provide for flexibility of planned arrangement of space and schedule to adjust to special circumstances and needs of a particular group of children or make use of special education opportunities; recognize unusual behavior or symptoms which may indicate a need for health care. (3-0-20) 5

***HSA 5511 CDA Practical Lab II—Advancing Physical and Intellectual Competence:** Upon completion of this practical lab experience, students should be able to use the kind of materials, activities, and experiences that encourage exploring, experimenting, questioning, that help children fulfill curiosity, gain mastery, and progress toward higher levels of achievement; recognize and provide for the young child's basic impulses to explore the physical environment and master the problems that require skillful body coordination; increase knowledge of things in their world by stimulating observation and providing for manipulative-constructive activities; to use a variety of techniques for advancing language comprehension and usage in an atmosphere that encourages free verbal communication among children and between children and adults; assist the child to work gradually toward recognition of the symbols for designating words and numbers; promote cognitive power by stimulating children to organize their experience (as it occurs incidentally or pre-planned for them) in terms of relationships and conceptual dimensions; classes of objects, similarities and differences, comparative size, amount, degree, orientation in time and space, growth and decay, origins; family kinship, causality; provide varied opportunities for children's active participation, independent choices, experimentation and problem-solving within the context of structured, organized setting and program; balance unstructured materials such as paint, clay, blocks with structured materials that require specific procedures and skills, and to balance the use of techniques that invite exploration and independent discovery with techniques that demonstrate and instruct; stimulate focused activities; observing, attending, initiating, carrying through, raising questions, searching answers and solutions for the real problems that are encountered and reviewing the outcomes of experience; support expressive activities by providing a variety of creative art media and allowing children freedom to symbolize in their own terms without imposition of standards of realistic representation; utilize support and develop the play impulse, in its varied symbolic and dramatic forms, as an essential component of the program; giving time, space, necessary materials and guidance in accord with its importance for deepening and clarifying thought and feeling in early childhood. (3-0-20) 5

***HSA 5512 CDA Practical Lab III—Building Positive Self Concept and Individual Strength:** Upon completion of this practical lab experience, students should be able to provide an environment of acceptance in which the child can grow toward a sense of positive identity as a boy/girl, as a member of the family and ethnic group, as a competent individual with a place in the child community; give direct, realistic affirmation to the child's advancing skills, growing initiative and responsibility, increasing capacity for adaptation, and emerging interest in cooperation, in terms of the child's actual behavior; demonstrate acceptance to the child by including the home language functionally in the group setting and helping to use it as a bridge to another language for the sake of extended communication; recognize individual differences in children's style and pace of learning and in the social-emotional aspects of their life situation, and adjust the teacher-child relationship to the individual needs by using a variety of teaching methods and by maintaining flexible progressive expectations; recognize when behavior reflects emotional conflicts around trust, possession, separation, rivalry, etc., and adapt the program of experiences, teacher-child and child-child relationships, so as both to give support and to enlarge the capacity to face these problems realistically; assess special needs of individual children and call in specialized help where necessary; keep a balance for the individual child between tasks and experiences from which feelings of mastery and success can be enjoyed, and those other tasks and experiences which are a suitable and stimulating challenge, yet not likely to lead to discouraging failure; assess levels of accomplishment for the individual child against the background of norms of attainment for a developmental stage, taking into careful consideration individual strengths and weaknesses and considering opportunities the child has or has not had for learning and development. (3-0-20) 5

HSA 5513 CDA Practical Lab IV—Organizing and Sustaining the Positive Functioning of Children and Adults in a Group Learning Environment: Upon completion of this practical lab experience, students should be able to plan the program of activities of the children to include opportunities for playing and working together and sharing experiences and responsibilities with adults in a spirit of enjoyment as well as for the sake of social development; create an atmosphere through example and attitude where it is natural and acceptable to express feelings, both positive and negative—love, sympathy, enthusiasm, pain, frustration, loneliness or anger; establish a reasonable system of limits, rules and regulations to be understood, honored and protected by both children and adults, appropriate to the stage of development; foster acceptance and appreciation of cultural variety by children and adults as an enrichment of personal experience; develop projects that utilize cultural variation in the family population as resource for the educational program. (3-0-20) 5

Industrial Safety, Security and Health Management Technology

SSH 3301 Principles of Industrial Management: Upon completion of this course, students should be able to identify the line and staff concept and the role each function must play in a successful management team; demonstrate an understanding of the various functions in the managerial process as it relates to decision making and policy formulation, organizing and staffing, planning and controlling, communicating and directing; demonstrate knowledge of group decision-making process specifically relating to the various types of committee organizations and the group and interpersonal dynamics which exist therein; demonstrate knowledge of the development of psychological principles as they have been applied to the industrial setting. (3-0) 3

SSH 3302 Hotel and Motel Security: Upon completion of this course, students should be able to demonstrate an understanding of the hotel/motel security function; have a working knowledge of federal and state laws and local ordinances regarding the operations of hotel/motels; analyze security hazards and outline protective measures such as security organizations, threat evaluation, access control, protection of cash, emergency planning, fire prevention and safety standard—(OSHA); prepare a working plan for a hotel/motel to include areas indicated. (3-0) 3

SSH 3500 Introduction to Loss Prevention: Upon completion of this course, students should be able to understand the historical, philosophiical, and legal bases of security; understand the fundamental principles of loss prevention and their role in modern society; translate principles of loss prevention management into workable security procedures; conduct a loss prevention survey of a facility incorporating personnel, information, and physical security criteria. (5-0) 5

SSH 3501 Introduction to Principles of Safety: Upon completion of this course, students should be able to identify principles of safety regarding equipment and machines; demonstrate skills in placement and use of protection equipment; demonstrate knowledge of safety principles in designing safety controls; demonstrate knowledge of methodology required to design, install, and follow up a safety program. (4-2) 5

SSH 3503 Retail Security: Upon completion of this course, students should be able to recognize problems and practices associated with retail security; prepare security proposals associated for a retail facility with regard to security measures; understand the proper utilization of "honesty shoppers," undercover detectives, and employee morale building programs. (5-0) 5

SSH 3504 Occupational Safety and Health I: Upon completion of this course, students should be able to be familiar with principles of on-the-job and off-the-job safety programming; be familiar with inter-relationship of safety, security, and fire systems, and programs; demonstrate knowledge of use of basic Job Safety and System Safety Analysis techniques; demonstrate knowledge of workplace health hazards and initial symptoms of those hazards; be familiar with engineering controls, their value and limitation. (4-2) 5

***SSH 3505 Occupational Safety and Health II:** Upon completion of this course, students should be able to review plans and specifications for adequacy of safety, fire, and security provisions; design safety systems for the control of explosive atmospheres in vapors, dusts, and gases; design safety equipment and guards for semi-complex systems; conduct complex employee health monitoring testing; demonstrate familiarity with approved testing and monitoring equipment, its use and calibration. (4-2) 5

***SSH 3506 Occupational Safety and Health III:** Upon completion of this course, each student should be able to recognize potential health and safety hazards, including chemical, physical, and environmental at construction sites and industrial facilities; recognize and apply appropriate OSHA regulations; recognize proper personal protective equipment and instrumentation required by OSHA; complete required reports.
*Prerequisite: SSH 3504, SSH 3506. (4-2) 5

***SSH 4190 Cooperative Education I:** This internship is designed for students in the Industrial Safety, Security and Health Management program to give them necessary experience in the field. This internship is one quarter in duration and should be completed in the last year of study. Approval of the program director is required and application must be made prior to registration.
*Prerequisite: 80 hours completed. (0-10) 1

***SSH 4490 Cooperative Education II:** This course is a continuation of the intern program and should be completed in the last quarter of study. Approval of the program director is required.
*Prerequisite: SSH 4190. (0-20) 2

SSH 4304 Special Problems in Industrial Safety: Upon completion of this course, students should be able to adapt modern methodological research techniques to a current problem in industrial safety through independent study; make clear written presentation in appropriate format; apply appropriate statistical analyses to the problem(s) of interest develop familiarity with available source date; identify a viable project and carry the assigned task through to a logical conclusion. (2-2) 3

SSH 4501 Industrial Hygiene and Toxicology: Upon completion of this course, students should be able to complete comprehensive reviews and make meaningful recommendations regarding methods of assessment, control, or elimination of potential industrial hygiene or toxicology problems; demonstrate familiarity with all carcinogen, mutagen, and teratogen forming materials, their threshold limit values (TVL's) and lethal dose 50 (LD-50) values; demonstrate knowledge of principles of ventilation, hazard control and the methods required to cope successfully with known and suspected hazards in the workplace. (4-2) 5

SSH 4504 Security Problems and Practices I: Upon completion of this course, students should be able to analyze and understand special problems and practices of the security profession; prepare and conduct a security survey of an open office, office building, school campus, and airport; identify problem areas and recommend procedures for safeguarding computer facilities; prepare and implement procedures for security of transportation and cargo facilities. (4-2) 5

SSH 4510 Principles of Interviewing and Interrogation: Upon completion of this course, students should be able to interview victims, witnesses, informants and complainants as a communicative relationship; use professionally acceptable techniques, question suspects and persons in custody; apply information obtained through the interview process for court testimony when required. (5-0) 5

SSH 4513 Computer Security: Upon completion of this course, students should be able to define the current threat to computer security; define at least 10 methods of maintaining physical security; define procedures for organizing electronic date-processing security; define at least 10 methods of maintaining communications security; define at least 10 systems of personal identification; construct a plan for evaluating a threat as to computation of loss and cost of countermeasures to neutralize the threat. (5-0) 5

SSH 4514 Electronics for Security: Upon completion of this course, students should be able to describe the current state of the art in basic electronic security devices; describe the state of the art in audio intelligence gathering devices used for industrial espionage; describe the most effective countermeasures to protect industrial audio; prepare a plan for installation of electronic security devices; prepare a plan to protect the audio in an industrial setting; know the current state and federal laws governing electronic surveillance and countermeasures devices and procedures. (5-0) 5

SSH 4515 Executive Protection and Terrorism: Upon completion of this course, students should be able to define the history of terrorism; be familiar with the infra-structure of current terrorist organizations, including their objective, philosophy and techniques; define the current practices of executive protection and, in a given situation, construct a plan for executive protection. (5-0) 5

SSH 4520 Private Investigations: Upon completion of this course, students should be able to plan and conduct background investigations of prospective employees; plan and conduct internal investigations; use outside resources for obtaining information; provide investigations for federal programs compliances; maintain confidentiality of investigative information. (5-0) 5

Insurance

INS 3340 Principles of Risk and Insurance: Upon completion of this course, students should be able to describe the basic concepts of risk, including its relationship to probability theory and the law of large numbers; discuss the relationship between risk and insurance; list and discuss the principles of risk management and the role of the risk manager; describe the nature and function of various types of insurance institutions; discuss the principles of insurance contracts; and write a basic risk management proposal. (1-4-0) 3

INS 3341 Personal Property and Casualty Insurance: Upon completion of this course, students should be able to describe the legal basis of insurance and be able to discuss the significance of insurable interest, indemnity, material fact and concealment; list the principles and conditions for the following types of insurance: marine insurance, standard fire insurance, inland marine insurance; discuss the purpose and intent of comprehensive general liability insurance, automobile insurance and automobile financial laws; describe crime insurance an suretyship; explain and compare the various homeowners policies. (2-2-0) 3

INS 4200 NASD Series 22 Review: Upon successful completion of this course, students should be able to describe the life cycle of a Tax Advantage Investment; evaluate Tax Advantage Investments, such as Real Estate, Oil and Gas, Equipment Leasing, Agriculture, Coal, Exotics, Taxation; determine client fit; explain the applicatory Federal Securities Regulations including Securities Act of 1933 and Securities Exchange Act of 1934; and pass Series 22 Exam on Direct Participation Programs. Students should register for the Series 22 Exam before taking this course. (2-0) 2

INS 4201 Part 1—Principles of Life and Health Insurance: Part 1 is designed to acquaint students with the basic features of life and health insurance and annuity products. Upon completion of this course, students should be able to list the elements of an insurable risk; define the basic life, health and annuity products; explain premium calculations and reserves; describe the major clauses in a life policy; and pass the FLMI Part 1 exam. (2-0) 2

***INS 4202 Part 2—Life and Health Company Operations:** Part 2 focuses on the business organization of the insurance industry. Upon completion of this course, students should be able to differentiate between stock and mutual insurers, fraternal societies, savings banks and governmental plans; explain the following functions of a company; actuarial, marketing, underwriting, policy owner service, legal investment and accounting; and pass the FLMI Part 2 exam.
*Prerequisite or Corequisite: INS 4201. (2-0) 2

***INS 4203 Part 3—Legal Aspects of Life and Health Insurance:** The basic features of the legal environment which affect a life insurance company's products and operations are presented in Part 3. Upon completion of this course, students should be able to distinguish between constitutions, case law and statutes; recognize valid, void, and voidable contracts; discuss the basic principles of agency law; describe the formation of a life contract; describe actions and defenses of contesting the contract; explain the legal effect of policy loans; describe the law of wills, interpleader, recission and reformaton; and pass the FLMI Part 3 exam.
*Prerequisite: INS 4202. (2-0) 2

***INS 4208 Part 8li—Life Insurance Investments:** The purpose of this preparatory course is to familiarize students with the types of investment media used by insurance companies and with the policies and practices of investment manangement in varying economic environments. Upon completion of this course, students should be able to describe a financial analysis, investment policies of a life insurer, kinds of mortgages, alternatives to mortgages; define real estate appraisal methods; explain managing investment techniques, the legal aspects of mortgages and how mortgages are administered; and pass the FLMI 9li exam.
*Prerequisite: INS 4202. (2-0) 2

***INS 4210 Part 10gl—Group Insurance:** This preparatory course examines the development, technical aspects, and administration of group life and health insurance coverages. Upon completion of this course, students should be able to describe the background, charactristics, forms, ratings, underwriting, and administration of group life and health plans; list other forms of group insurance including government insurance programs; and pass the FLMI Part 9gi exam.
*Prerequisite: INS 4202. (2-0) 2

***INS 4211 Part 10cl—Life and Health Insurance Claims:** The purpose of this preparatory course is to familiarize students with the medical, legal, and organizational aspects of claim administration. Upon completion of this course, students should be able to use basic medical terminology properly; describe the claim administration process and how it is managed; list general claim considerations of all types of life and health policies; explain how life insurance proceeds are distributed; and pass the FLMI Part 9cl exam.
*Prerequisite: INS 4202. (2-0) 2

INS 4280 NASD Series 6 and 63 Review: This course is designed as a review course for persons taking the NASD Series 6 and 63 Exams. Upon successful completion of this course, students should be able to explain the laws applicable to variable annuities, mutual funds, and Blue Sky transactions; and pass both national exams. It is suggested that students register for Series 6 and 63 exams before taking this course. (2-0) 2

INS 4284 Cooperative Work Experience I: Upon successful completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: Completion of 52 hours including INS 4294, INS 4395, INS 4396, INS 4297, COE 3100. (0-0-20) 2

INS 4285 Cooperative Work Experience II: A continuation of INS 4284. Upon successful completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: INS 4284. (0-0-20) 2

INS 4286 Cooperative Work Experience III: A continuation of INS 4285. Upon successful completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: INS 4285. (0-0-20) 2

INS 4294 General Insurance Part I—Introduction: This is the first course in a series which when completed qualify students to take the licensing exam given by the Department of Insurance for insurance agents. Upon completion of this course, students should be able to identify the types of risk and how to apply the risk manangement concepts to said functions of insurance companies; interpret the various laws and regulations affecting the insurance industry. (2-0) 2

***INS 4297 General Insurance Part IV—Adjusters:** Upon completion of this course, students should be able to describe the legal basis of contracts and claims; discuss the elements and purpose of negligence, principle of single recovery, *res gestae*, family purpose doctrine and the presumptions of *res ipsa loquitur* and *respondent superior*, list and discuss the principles of torts; describe and discuss the art of investigation and interviews; list the principles and describe the nature and function of negotiations, arbitration, settlement, and lawsuits; list and discuss various medical reference sources, medical terminology, and diagnostic procedures.
*Prerequisite: INS 4396. (2-0) 2

INS 4315 Personal Risk Management and Insurance I (HS 315): This course is designed particularly for multi-line agents. Upon completion of this course, students should be able to identify and describe personal loss exposures; explain all parts of the various homeowners and auto insurance forms; explain other property and liability forms; list and explain social insurance programs, individual health insurance, and group health insurance; pass the HS315 Exam. (3-0) 3

***INS 4316 Personal Risk Management and Insurance II (HS 316):** This course is a continuation of INS 4315. Upon successful completion, students should be able to explain in detail to the satisfaction of a consumer the various types of life insurance; participate in retirement income planning; describe the types and uses of investments; explain the business uses of life and health insurance; participate in estate planning; pass the HS 316 exam. (3-0) 3

INS 4317 Multiline Insurance and Operations (HS 317): This course is designed particularly for multiline agents. Upon successful completion of this course, students should be able to recognize and discuss laws of insurance, contracts, and torts; underwriting personal property and liability insurance, pricing personal property and liability insurance, personal insurance claims, and handling practices; complete the HS 317 exam. (3-0) 3

INS 4320 Introduction to Financial Planning (HS 320): This introductory course sets the stage for CLU and ChFC programs by providing an overview of the environment in which financial services professionals assist clients in meeting their financial counseling and planning needs. Upon completion of this course, students should be able to recognize and discuss financial planning, personal computers, use of the Fact Finder, the time value of money, financial statements, cash flow, regulation of financial services professionals, the relationship between financial services and professionals; complete the HS 320 exam. (3-0) 3

INS 4321 Income Taxation for Financial Planning (HS 321): This preparatory course provides coverage of the federal income tax system with particular reference to the taxation of life insurance and annuities. Upon successful completion of this course, students should be able to recognize and discuss an overview of the income tax system, basic income tax concepts and gross income, deductions for business and production of income expenses, deductions for losses, bad debts, other expenses and tax credits, cost recovery deductions and sales exchanges, capital gains and losses, alternative minimum tax, taxation of life insurance, taxation of corporations and their shareholders, taxation of partnerships and partners; complete the HS 321 exam. (3-0) 3

INS 4322 Financial Systems in the Economy (HS 322): This preparatory course is designed to explain the basic economics, principles, and institutions, an underrstanding of which is necessary for an appreciation of alternative explanations of and alternative solutions for the more common economic problems found in private and government sectors. Upon completion of this course, students should be able to recognize and discuss the role of the financial transactions, commercial banks and creation of money, nonbank thrift institutions, interest rates in the financial system, money markets, consumer lending and borrowing; be able to pass HS 322 exam. (3-0) 3

INS 4323 Individual Insurance Benefits (HS 323): This is the first course in the CLU and ChFC programs providing coverage of products, tools, and techniques. Upon completion of this course, students should be able to recognize and discuss life and health insurance in financial planning, insurance fundamentals, individual annuities, social insurance programs, risk selection, insurance regulations, personal, property and liability insurance; complete the HS 323 exam. (3-0) 3

INS 4324 Life Insurance Law (HS 324): Financial services professionals must understand the legal rights and obligations of the policy owner and the insurance company before and after the policy is issued. Upon completion of this course, students should be able to: recognize and discuss the legal environment of insurance, contracts and agency law, life insurance agents as employers, waiver and estoppel, policy formation, policy provisions, contract operations, premiums and prematurity values, policy transfers and reinstatements, contract disputes, performance, health insurance, insurance advertising, privacy, and complete the HS 324 exam. (3-0) 3

INS 4325 Group Benefits (HS 325): It is important that financial services professionals understand the benefits provisions and the advantages and limitations associated with group insurance as a method for meeting economic security needs. Upon successful completion of this course, students should be able to recognize and discuss group insurance, the government environment for group insurance, group life insurance, group disability income insurance, group medical expense insurance, other group insurance benefits, marketing group insurance, group insurance pricing, alternative funding methods, other group insurance benefits, group plan design; complete the HS 325 exam. (3-0) 3

INS 4326 Pensions and Other Retirement Plans (HS 326): This course emphasizes planning for retirement income and for maximum tax benefit for employees and business owners. Upon completion of this course, students should be able to distinguish qualified and non-qualified deferred compensation plans; design a qualified pension plan, profit-sharing plan, and other qualified plans; explain the income and estate tax aspects; explain individual retirement plans, tax deferred annuities and non-qualified deferred compensaton plans; pass the HS 326 exam. (3-0) 3

INS 4327 Employee Benefits (HS 327): It is important that students in financial planning understand the benefit provisions and the advantages and limits associated with social insurance, group insurance, and retirement plans. Upon completion of this course, students should be able to design employee benefit plans for providing security with respect to the economic problems resulting from death, old age, unemployment, and disability; analyze group insurance benefits and describe basic features of pension plans, profit-sharing plans, other retirement plans, and deferred compensation agreements; pass the HS 327 exam. (3-0) 3

INS 4328 Investments (HS 328): Effective financial planning requires that the investment be selected that meets personal objectives and is consistent with personal risk preference. Upon completion of this course, students should be able to recognize and discuss the role and scope of investments, savings, debt and credit, security markets, corporate and government bonds, common stock investments, analysis and valuation, hybrid securities, commodities, mutual funds, variable annunities, real estate investments, portfolio management, investment stategies; complete the HS 328 exam. (3-0) 3

INS 4329 Wealth Accumulation Planning (HS 329): Upon completion of this course, students should be able to explain the principles of real estate investment and taxation; describe the fundamentals of tax-sheltered and tax-incentive investments with emphasis on major tax investment and organizational characteristics of real estate, oil and gas, agricultural, and equipment-leasing limited partnership; plan for a living estate within a framework of accumulation and retirement planning; pass the HS 329 exam. (3-0) 3

INS 4330 Fundamentals of Estate Planning I (HS 330): The estate and gift planning process includes an understanding of the tax consequencess of various estate planning devices. Upon completion of this course, students should be able to recognize and discuss the estate planning process; forms of property process; forms of property ownership; lifetime transfers; trust, trustees and other fiduciaries; powers of appointment; transfers at death; the estate administration process, federal gift taxation; federal estate taxation; gross estate; valuation of assets; computation and payment of federal estate taxes, income taxation of estates and trusts, other estate planning considerations; complete the HS 330 exam. (3-0) 3

INS 4331 Planning for Business Owners and Professionals (HS 331): Upon completion of this course, students should be able to describe and explain: tax and legal aspects of organizing a business, problems in continuing a business after an owner's death, and the insured buy-sell agreement; retirement of a business owner, including estate planning and "estate freezing" techniques; lifetime dispositions and the use of installment sales and other methods of business uses of life and health insurance for the benefit of business owners; disability buy-sell agreements; key employee life and health insurance plans; and split-dollar life insurance plans; business uses of property and liability insurance; pass the HS 331 exam. (3-0) 3

INS 4332 Financial Planning Applications (HS 332): A case course aimed at both integrating the various techniques, tools and products covered in earlier courses in the chartered financial consultant program with the financial planning process outlined in INS 4320 (HS 320) and giving students practical application in analyzing and solving realistic financial problems of individuals and business. Upon completion of this course, students should be able to recognize and discuss financial planning, the process of gathering and organizing facts and information for clients and apply this to case planning of all types; complete the HS 332 exam. (3-0) 3

INS 4334 Fundamentals of Estate Planning II (HS 334): A continuation of INS 4330 (HS 330). Upon successful completion of this course, students should be able to recognize and discuss life insurance in estate planning, the construction of the gross estate for federal estate tax purposes, estate reduction including estate freezing, taxation of trusts, procedural principles of estate planning; complete the HS 334 exam. (3-0) 3

INS 4336 Analysis of Tax-Advantaged Investments (HS 336): Effective financial planning requires that tax-advantaged investments be considered. Upon successful completion of this course, students should be able to recognize and discuss tax advantage investments; forms and issues of ownership of real estate, oil and gas, and agriculture; equipment leasing, methods of investments; complete the HS 336 exam. (3-0) 3

INS 4337 Business Taxation and Planning (HS 337): This preparatory course is designed to explain the formation of business entities and the tax consequences of each type. Upon successful completion of this course, students should be able to recognize and discuss basic tax strategies, time value of money, methods of accounting, formation of partnerships, formation of corporations, purchase and lease of business assets; complete the HS 337 exam. (3-0) 3

***INS 4354 Professional Ethics:** Upon completion of this course, students should be able to identify and list the elements of the crimes most often committed by persons in the insurance industry, as well as understand the meaning of insurance being a "service industry." Students should also be able to identify ethical and non-ethical behavior from various scenarios given.
*Prerequisite: completion of at least 45 hours in this program. (2-2) 3

***INS 4395 General Insurance Part II—Life, Accident and Health:** A continuation of INS 4294. When completed with INS 4294, this course qualifies students to take the licensing exam required for Life, Accident and Health Insurance agents. Upon completion of this course, students should be able to discuss the exposures, types, policy provisions, and practi-

ces of life, accident and health insurance; interpret the regulations and laws specifically applying to life, health and accident agents; describe the various social insurance plans.
*Prerequisite: INS 4294. (3-0) 3

***INS 4396 General Insurance Part III—Fire and Casulty:** A continuation of INS 4294. When completed with INS 4294, this course qualifies students to take the licensing exam required for Fire and Casualty agents. Upon completion of this course, students should be able to discuss and explain the various lines for fire and casualty insurance such as: automobile, marine, inland marine, general liability, worker's compensation, commercial fire, home owner's, crime, and umbrellas. Students should also be able to explain the functions of government-sponsored insurance such as FAIR plans and BEACH plans; interpret the regulations and laws specifically applying to fire and casualty agents; discuss the forms for the various types of insurance.
*Prerequisite: INS 4294. (3-0) 3

INS 4400 Disability Income Training Course (LUTC): This is one of a series of preparatory courses for the LUTCF. Upon successful completion of this course, students should have the skills to enter the disability income market with knowledge and confidence. They should be able to describe the market opportunities, how to get extra sales, use field-proven methods to close sales of life and disability income, describe the business coverages and advantages, and turn objections around. Case studies will be used. Upon successful completion of this course, students will earn 60 Study and Practice Equivalents toward the LUTCF. (4-0) 4

INS 4401 NASD Series 7 Review: This course is designed to prepare individuals to take the NASD Series 7 Exam. Upon successful completion of this course, students should be able to describe the various equity market; explain the types of equities and how they differ; calculate conversion parity; describe the tax advantages of various investments; read a consolidated tape; describe how orders work; explain how puts and calls work; discuss the rules applying to client accounts; explain how margins work and how to calculate transactions in margin accounts; define short sales; discuss the economics that affect the equities market; complete a security analysis; read the financial news; calculate financial ratios; describe the taxation of securities transactions; read and understand applicable federal law and NASD regulations; pass Series 7 Exam. (4-0) 4

INS 4404 Financial Planning Skills (LUTC): Another in the series of Life Underwriters Training Courses. Upon successful completion of this course, students should be able to identify financial planning prospects; develop prospecting and approach techniques; understand legal requirements and their responsibility to clients and clients to agents; define and understand the agent's role; characterize the elements of a balanced financial plan; identify the impact of taxes on investment alternatives; use the IRS Form 1040 as a sales and learning tool; determine best use of IRA/keogh Thrift/403b trusts; incorporate alternative financial tools; read and interpret financial news and statements; identify impediments to plan implementation; utilize the concept of the financial planning team; use the coure's one-page visual illustrations and sales tracks. (4-0) 4

INS 4700 Advanced Sales Training Course (LUTC): Another in the series of Life Underwriters Training Courses. Upon successful completion of this course, students should be able to sell with confidence in the more sophisticated advanced markets which include advanced estate planing, business insurance, and employee benefit plans. Successful completion of this course earns 120 Study and Practice Equivalents towards the LUTCF. (7-0) 7

INS 4701 Personal Insurance Training Course (LUTC): Another in the series of Life Underwriters Training Courses. Upon successful completion of this course, students should have obtained the knowledge to make sales and develop confidence. Further they should be able to describe what makes a successful agent in the life industry; apply the total needs approach and dominant needs approach to selling; describe the value of life insurance ownership; use the positive ingredients of the sale; and compare new products. Successful completion of this course earns 120 Study and Practice Equivalents toward the LUTCF. (7-0) 7

INS 4702 Business Insurance Training Course (LUTC): Another in the series of Life Underwriting Training Courses. Upon successful completion of this course, students should be able to pinpoint and solve problems of business owners and key executives; describe how the magic of life insurance satisfies both business purposes and estate planning needs; be able to communicate effectively and confidently with business executives. Topics covered include business markets, ownership, death and money problems, taxes and tax-related sales, key executives, business continuation, disposition of property and sale tracks. Successful students in this course earn 120 Study and Practice Equivalents towards the LUTCF. (7-0) 7

Interior Design

***EDN 4202 Thesis:** Students will plan and develop a professional portfolio based on work done during the preceding five quarters. Students will be involved in reworking and matting and, where necessary, develop new projects which will help them focus their portfolio on specific job interest.
*Prerequisite: EDN 4415. (0-4) 2

EDN 4204 Survey of Period Interiors: Students will survey period furniture, furnishings, and interiors in chronological order from Gothic through American, and will be able to recognize the influence of these styles. Students should be able to identify the major period styles currently popular. (2-0) 2

EDN 4300 Survey of Interior Design: Students will acquire a general understanding of the nature and scope of interior design as a profession, contrasting and comparing different specializations within the field of interior design. (3-0) 3

***EDN 4307 Survey of Materials:** Students will survey materials currently available and should be able to select the proper material for a specific application using the following criteria: overall quality, price, durability, color, and material from which the product is constructed. Materials covered: rugs and carpets, furniture, ceramic tile, paint, wallpaper and wall coverings, hardware, textile products, glass and building materials.
*Prerequisite: EDN 4414. (1-4) 3

***EDN 4310 Design Sketching:** Upon completion of this course, students should be able to use drawing skills for effective communication; produce presentation sketches, point of purchase sketches, and idea development sketches as associated with the design process; use a variety of media appropriately on different surfaces and use "blueprint" materials and equipment to reproduce their drawings.
*Prerequisite: ART 1405. (0-6) 3

EDN 4316 Period Furniture and Furnishings I: Upon completion of this course, students will be able to recognize, identify, and describe the major period styles in furniture and furnishings and their influence on contemporary design. Covers the period from Egyptian through Louis XIV. (3-0) 3

***EDN 4317 Period Furniture and Furnishings II:** Upon completion of this course, students will be able to recognize, identify, and describe the major period styles in furniture and furnishings and their influence on contemporary design. Covers the period from Louis XIV through contemporary.
*Prerequisite: EDN 4316. (3-0) 3

EDN 4320 Introduction to Textiles: Upon completion of this course, students will be able to identify major categories of fibers and weaves; describe contemporary machine weaving methods; describe contemporary fabric finishing processes; and describe and identify contemporary fabric printing methods. (3-0) 3

***EDN 4390 Independent Study:** This course provides the opportunity for the individual student or group to work beyond the limits of the regular interior design course offerings on self-determined objectives, utilizing the resources of the Art Department.
*Prerequisite: Completed sequence of art courses in the area of proposed independent study. Students interested in pursuing areas in interior design that are not part of regular course offerings should contact an instructor for suggestions and possibilities. (0-6) 3

***EDN 4400 Professional Practices and Procedures:** Students will study current business practices in the field of interior design. Upon completion of this course, they should be able to write and design an initial contract form, a letter of agreement, prepare a purchase order, figure wholesale discounts, and do simple job estimating.
*Prerequisite: EDN 4415. (2-4) 4

***EDN 4404 Interior Presentation:** Students will develop technical skill in applying elements that comprise the interior environment: fabric, furniture, rock, masonry, foliage, etc. They will make presentations of designs in simulated designer-clientele relationships and should be able to construct and present simple interior design projects in a professional manner, preparing fabric and material collages and room layouts in ink and color.
*Prerequisite: ARC 3434, ART 1426, EDN 4310. (2-4) 4

***EDN 4406 Contract Interiors:** Students will study current techniques in designing interiors for commercial and industrial buildings and will learn to recognize and anticipate changing needs. They should be able to analyze and make recommendations concerning interior design solutions befitting 20th Century contract interiors.
*Prerequisite: EDN 4415, ARC 3304. (2-4) 4

***EDN 4414 Applied Problems Studio I:** Students will explore fundamentals of interior design, space planning, convenience, function, and visual effects and will complete planned problems to achieve workable and practical solutions to current needs for the single dwelling. They will prepare graphic solutions in two and three dimensional form.
*Prerequisite: ARC 3303, ARC 3334, ART 1426, EDN 4310; Corequisite: EDN 4404. (2-4) 4

***EDN 4415 Applied Problems Studio II:** Students will apply knowledge and skills from EDN 4414 to advanced solutions to special space problems, preparing presentations and complete specifications.
*Prerequisite: EDN 4414, ARC 3304. (2-4) 4

***EDN 4416 Applied Problems Studio III:** Students will investigate, plan and execute interior designs for a cross-section of current interiors and should be able to solve actual complex interior design problems including accurate specifications and construction details.
*Prerequisite: EDN 4415. (2-4) 4

International Business

INT 3300 Introduction to International Business: This course is an introduction to the environment, concepts, and basic differences involved in international business. Upon completion of this course, students should be able to describe the international business climate (first, second, and third world), describe the forms of foreign involvement, explain international trade theory, explain governmental influences on trade and the strategies associated with them, name and describe the major organizations affecting international trade policy, explain the role of multinational corporations, and describe the difference involved in control, personnel management, and marketing in the international organization. (3-0) 3

***INT 3305 International Marketing:** Upon completion of this course, students should be able to describe the marketing opportunities in the international environment; explain methods of acquiring marketing information in other countries; describe the different methods of market entry and market strategy; describe methods of advertising and sales in the international environment; describe the different channels of distribution and methods of physical distribution; describe the pricing strategies for products in the international market and the effects of countertrade on this strategy; and explain the steps in formulating an overall product policy for the international marketplace.
*Prerequisite: INT 3300 (3-0) 3

***INT 3306 International Business Practices:** Upon completion of this course, students should be able to describe the forms of international business ownership, describe the forms organization of foreign companies and the underlying concepts of power and authority, describe the effects of culture on business, describe the forms of verbal and non-verbal communication and explain the methods of researching the differnce and techniques for adopting to the differences, explain the styles of negotiation in the international arena and the methods of successfully responding to these styles, and discuss ethical issues involved in international business; develop a plan for doing business in a foreign country.
*Prerequisite: INT 3300 (3-0) 3

***INT 4425 Travel Study Abroad:** This course is designed for students to apply their language and theoretical skills in an appropriate international business setting during a guided travel study of international business function in a foreign country. Upon completion of this course, students should be able to demonstrate strengthened skills in their language of choice, perform with greater competence and confidence in the international workplace, perform successfully the objectives outlined in the training plan, and develop a greater understanding of cultural patterns and business practices in the region of study.
*Prerequisite: Completion of language requirement, a minimum of five INT courses, and permission of the department head. (0-40) 4

***INT 3307 Economics of International Trade:** Upon completion of this course, students should be able to describe the international balance of payments; explain foreign exchange rates and their determination; describe the concepts of forward exchange and hedging against exchange risks; describe the Bretton Woods international monetary systems and its collapse; explain the arguments for and against free trade and protectinism; describe tariff and non-tariff trade barriers and explain the advantages and disadvantages of each; discuss the forces and criteria for the development of a new international economic order.
*Prerequisite: INT 3300, ECO 2306. (3-0) 3

***INT 4307 International Business Law:** Upon completion of this course, students should be able to describe the different theories of law and their effect on the concepts of contracts, product liability, intellectual property and agency; describe methods for resolving disputes in international transactions; describe the major organizations involved in trade control; describe the operation of the General Agreement on Trade and Tariffs; explain the affects of major U.S. law effecting international trade.
*Prerequisite: BUS 2306, INT 3300. (3-0) 3

***INT 4308 International Accounting and Taxation:** Upon completion of this course, students should be able to describe the different accounting systems used in different countries; describe the impact of different currencies and accounting methods for identifying, recording and interpreting the differences; de-

scribe methods of currency control in international business; describe the accounting practices used to account for differing rates of inflation and the risk of expropriation; describe the major types of taxes to which the international organization is exposed; explain United States tax adjustments for foreign taxation, explain the treasury controls imposed foreign assets and trade.
*Prerequisite: ACC 1605, INT 3307. (3-0) 3

***INT 4225 Cooperative Work Experience I:** This course is designed to aid students in applying the skills necessary for success in the area of international business under the guidance of a company actively involved in international business. Upon completion of this course, students should be able to perform successfully the objectives outlined in the training plan, perform with greater competence in the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field, and their potential success and advancement in that occupation; analyze the job market in their chosen career prior to entry into that career as a full time employee.
*Prerequisite: Complete the prescribed 21 credit hours and obtain permission of department head. (0-20) 2

***INT 4226 Cooperative Work Experience II:** Upon successful completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their interest and performance in the given occupational field and potential success and advancement in international business; assess realistically the general requirements and responsibilities of successful employment, and evaluate their capacity to comply with entrance into that career as a full-time employee.
*Prerequisite: INT 4225. (2-0) 2

Italian

ITA 1600 Elementary Italian I: Students should recognize native patterns of speech in elementary Italian, as well as acquire proficiency in aural comprehension, reading comprehension, and writing skills. They should be able to read, write, speak, and comprehend spoken Italian on the elementary level of salutation; the present and past tenses; reflexive verbs, nouns, pronouns, and adjectives; numbers; time expressions; and idiomatic expressions. They should also be able to explain the basic cultural patterns of everyday living in Italy, such as schools, leisure time activities, and general geography. (5-2) 6

***ITA 1601 Elementary Italian II:** Students will build upon the native patterns of speech they learned In Elementary Italian I to acquire greater proficiency and increased sophistication in aural comprehension, reading comprehension, writing, and speaking skills. Students should be able to recognize and use all types of pronouns—indirect object, indefinite, double object, disjunctive, possessive and *ci* and *ne* both indefinite and possessive adjectives; the imperative, the imperfect tense and its use in comparison with the *passato prossimo* and the *trapassato;* the future with its uses; the present conditional.
*Prerequisite: ITA 1600 or equivalent. (5-2) 6

***ITA 2600 Intermediate Italian I:** Students will use the native patterns of speech learned in ITA 1601 and will be able to recognize and use the subjunctive in the present, past, and future tenses. They will also be able to recognize and use the conditional perfect, the *passato remoto,* and the passive voice. They will read and be able to explain short essays in Italian describing the political, theatrical, musical, and technical life of modern Italy.
*Prerequisite: ITA 1601 or equivalent. (5-2) 6

Journalism

(See ENG - English Literature, and Writing)

Law Enforcement Technology

PSC 3303 Motor Vehicle Laws of North Carolina: Upon completion of this course, students should be able to apply the provisions of North Carolina General Statute Chapter 20 toward its intended purpose: to protect the lives and property of persons using the streets and highways of North Carolina.
(2-2) 3

PSC 3500 Introduction to Criminology: Upon completion of this course, students should be able to identify and describe the major theories of crime causation, the major crime prevention programs, the major treatment programs; to identify the major researchers in the field of criminology. (5-0) 5

PSC 3501 Introduction to Law Enforcement: Upon completion of this course, students should be able to identify at least 80 major concepts related to the history of law enforcement; identify the purpose of at least 25 law enforcement agencies operating in North Carolina; from a list of at least 18 specific crimes, identify the law enforcement agency with jurisdiction; recognize at least 34 current practices of law enforcement agencies and/or personnel; identify the purpose of at least 10 federal law enforcement agencies. (5-0) 5

PSC 3504 Crime Scene Technology: Upon completion of this course, students should be able to protect life and property at a crime scene; protect, preserve, and photograph a crime scene; search the crime scene for evidence; maintain chain of custody in handling of physical evidence; demonstrate proficiency in the use of specialized equipment in collecting, identifying, and processing physical evidence. (4-2) 5

PSC 3510 Criminal Law: Upon completion of this course, students should have had a practical approach to the substantive law and should have a sound introduction to legal theory; have a basic knowledge of the common law; identify and define elements of crimes; understand how basic concepts function to determine the law; be able to identify and define legally recognized defenses. (5-0) 5

PSC 3514 Police Organization and Administration: Upon completion of this course, students should be able to depict the organization of a police agency within the guidelines of sound organizational principles; recognize effective administrative functions; formulate a budget; write a staff study, emergency plan, standard operating procedure, and a general order. (5-0) 5

PSC 4310 Self-Defense and Weaponry: Upon completion of this course, students should be able to demonstrate: firing proficiency with the police service revolver, including prescribed safety procedures; self-defense procedures utilizing police methods; proficiency in the use of the baton, and proper utilization of handcuffs. (1-4) 3

PSC 4312 Organized Crime: Upon successful completion of this course, students should be able to identify organized crime families in the U.S.; recognize the effects of organized crime; identify the agencies and efforts utilized to reduce the impact of such crime in this country; identify successful efforts in fighting organized crime. (3-0) 3

PSC 4501 Constitutional Law: Upon completion of this course, students should be able to identify, define, and apply statutory rules and standards in the area of arrest, search and seizure; possess an understanding of the landmark cases under the state and federal constitutions, particularly the Fourteenth Amendment. (5-0) 5

PSC 4503 Law Enforcement Psychology: Upon completion of this course, students should be able to identify the most common psychological demands, affects and effects of the law enforcement function on the officers and their families; identify the most common procedures of selection, retention, and promotion of police officers; identify major methods of obtaining information; identify the major methods employed in deception; identify common principles of dealing with and controlling people; identify the behavioral characteristics of abnormal people commonly encountered by police officers; know the remedial services that are available. (5-0) 5

***PSC 4504 Criminal Procedure and Rules of Evidence:** Upon completion of this course, students should be able to display and demonstrate workable knowledge and skill in criminal procedure and rules of evidence, and demonstrate a generally desired and accepted practice of courtroom decorum. This includes: North Carolina Code of Pretrial Criminal Procedure, Appellate Review, the role of the presiding judge, judicial notice, impeachment and corroboration, examination, competency and privilege in general, transactions with persons since deceased or insane, circumstantial evidence, character, real evidence, evidence illegally obtained, opinion, expert testimony, hearsay, admissions, confessions, burden of proof, and presumptions.

*Prerequisite: PSC 3510, PSC 4501, or departmental consent. (5-0) 5

PSC 4505 Criminal Investigation: Upon completion of this course, students should be able to maintain an accurate notebook; define the accepted procedures for interviews, interrogations, admissions, confessions, and written statements; define the accepted procedures for developing and maintaining informants; identify sources of information; define accepted procedures for undercover operations and surveillance; define accepted procedures for the investigation of specific offenses; define specific forensic procedures and applications; identify laws and case laws applicable to criminal investigation. (5-0) 5

***PSC 4506 Advanced Crime Scene Technology:** Upon completion of this course, students should be able to sketch a mock crime scene; photograph a mock crime scene; process a mock crime scene for latent fingerprints; process a mock crime scene for biological fluids; process a mock crime scene for ballistics evidence; process a mock crime scene for trace evidence; be 100% complete in gathering physical evidence in a mock crime scene; process a mock crime scene for tool marks; prepare the physical evidence for transport to a crime lab; present, in a mock trial, all evidence found at the mock crime scene; with-

stand cross-examination in presenting evidence in mock trial.
*Prerequisite: PSC 3504 or departmental consent.
(4-2) 5

PSC 4510 Police Operations: Upon completion of this course, students should be able to define the purpose of police patrols; define the types of patrol; define the types of communications; define the accepted procedures for: observation, perception, notetaking, report writing, identification and description of persons and property, field interrogation, stopping of vehicles and control of occupants, use of personal protective weapons, techniques and tactics by type of call; perform a stop and frisk; complete and affidavit and search warrant. (4-2) 5

PSC 4520 Public Relations: Upon completion of this course, students should be able to define the focus and overall purpose of public relations; list 25 positive benefits of effective public relations for criminal justice agencies; list 35 negative aspects of faulty public relations for criminal justice systems; define the power and influence of public opinion; identify major problems in public relations as related to the criminal justice mission; identify factors which foster effective and affective public relations; identify examples of conserving favorable public opinion; identify common ways of sampling public opinion. (5-0) 5

Learning Skills

(Also see Education)

LEP 6001 Limited English Proficiency Level I: Upon completion of this initial survival English course, international students should be able, in English, to ask and respond to simple questions; follow simple oral instructions; fill out simple forms; identify and read money amounts; read abbreviations; identify letters, letter combinations, and the sounds they represent; read and write a simple sentence, read a paragraph; add, subtract, multiply, and divide whole numbers through a content-based approach to learning English skills.

LEP 6002 Limited English Proficiency Level II: Upon completion of this second-level survival English course, international students should be able, in English, to understand the use of punctuation marks; read and follow directions; read silently and answer questions; use context clues in reading; write a paragraph; add, subtract, multiply, and divide fractions, decimals, and percentages; solve problems involving ratio and proportion; interpret and respond appropriately to questions on application forms for citizenship and amnesty through a content-based approach to learning English skills.

Machinist

MAC 3201 Machine Operations for Engineering Technicians: Upon completion of this course, students should be able to calculate speeds and feeds for lathes, milling machines, and drill presses; layout, drill, and tap holes to specified tolerances; describe the nomenclature of chucking and holding devices, cutting tools, and operating procedures for drill presses, lathes, milling machines, and grinding machines; set up and operate lathes and milling machines; describe basic programming procedures for two-axis CNC machines. (1-3) 2

***MAC 3202 CNC Programming and Machining for Engineering Technicians:** Upon completion of this course, students should be able to demonstrate a basic knowledge of numerical control and computer numerical control programming; produce a part program using the Numeridex Computer System; write a program for a CNC machining center to include linear interpolation, drilling, boring and pocket milling; MDI programs into CNC turning and machining centers.
*Prerequisite: MAC 3201. (1-2) 2

MAC 5200 Precision Instrument Reading: Upon completion of this course, students should be able to solve problems related to the machinists' field involving fractions and decimals; read basic 3-view projections; properly care for, read, and use the following precision measuring instruments: steel rule, vernier caliper, vernier height gauge, micrometer, dial indicator, gauge blocks, and fixed gauges. (2-0) 2

MAC 5201 Machine Shop Practices: Upon completion of this course, students should be able to identify and use the basic hand tools and measuring instruments associated with the metal working trades; perform basic operations using a drill press, lathe, milling machine, and grinding machine; remove broken studs and taps properly; state the uses of, and install helicoils; describe and use all appropriate safety procedures. (1-3) 2

MAC 5203 Blueprint Reading for Machinists I: Upon completion of this course, students should be able to sketch multi-view drawings; interpret conventional lines and dimensions; interpret notes, thread notations, and welding symbols; make pictorial sketches; interpret basic drawings. (1-2) 2

***MAC 5204 Blueprint Reading for Machinists II:** Upon completion of this course, students should be able to read and interpret industrial prints of a more complex nature; and interpret geometric tolerance symbols and true position dimensioning; sketch details and assemblies.
*Prerequisite MAC 5203. (1-2) 2

***MAC 5205 Coordinate Measuring Machine Applications:** Upon completion of this course, students should be able to describe the uses and functions of the coordinate measuring machine; program the machine; list and use proper command functions for measuring; edit programs and make changes when needed; measure parts for taper, perpendicularity, concentricity, roundness, and flatness.
*Prerequisite: MAC 5200 or permission of the Machinist program director. (1-2) 2

MAC 5296 Machinist Co-op I: Upon completion of this course, students should be able to apply the skills acquired in Machinist courses to actual working situations in the machinist industry; produce a worklog sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits. (0-20) 2

***MAC 5297 Machinist Co-op II:** This is a continuation of MAC 5296 Machinist Co-op I. (0-20) 2

MAC 5300 Fundamentals of Computer Numerical Control Programming: Upon completion of this course, students should be able to describe the principles involved in the operation of NC and CNC machines; translate information from prints into X and Z coordinate terms; compose a point to point positioning manuscript; compose a sequential manuscript for a two-axis CNC lathe; solve programming problems involving tool paths and pitch circles; position, adjust, set feed rates, operate, and correct performances of a CNC training lathe during tape run. (3-0) 3

MAC 5303 Computer Numerical Control Machining Center Operations: Upon completion of this course, students should be able to use proper safety procedures; set up tooling for the machining center; load programs and machine complex parts; use precision instruments; use proper insert tooling and state their uses in machining different types of materials; operate the main control panel and be able to MDI program into computer memory; establish point of origin and locate fixture properly; prove accuracy of program using block by block procedure. (2-3) 3

***MAC 5304 Computer Numerical Control Programming—Turning Center:** Upon completion of this course, students should be able to describe the proper use and uses of inserted qualified tooling; determine proper speeds and feeds; describe the "G" codes and their applications for the turning center; manually set up and operate the turning center for CNC programs; write programs for straight and taper turning, turn radii and chamfers, O.D. and I.D. threading; enter program to computer on FANUC control; write programs for lathe capabilities; organize and edit programs.
*Prerequisite: MAC 5300 or permission from Machinist program director. (2-2) 3

***MAC 5305 Computer Numerical Control Programming —Machining Center:** Upon completion of this course, students should be able to list codes and describe machine control words; write manuscript using canned drilling cycles, straight line linear interpolation, circular interpolation, close tolerance boring, and threading cycles; determine correct speeds and feeds; MDI programs into CNC controls; optimize and edit programs; prepare tapes to plot, prove, edit and produce parts on a machining center.
*Prerequisite: MAC 5300 or permission from the Machinist program director. (2-2) 3

MAC 5306 Computer Numerical Control Turning Center Operations: Upon completion of this course, students should be able to use proper safety procedures; set up tooling for the turning center; load programs and machine complex parts; use precision instruments; use proper carbide insert tooling and state their uses in machining different types of materials; operate main control panel and be able to MDI programs into computer memory; load programs by tape to transmit programs from Numeridex to machine and back to terminal for storage; make tool offsets and set tooling to programmed point of origin; prove accuracy of new program by using block by block procedure. (2-3) 3

***MAC 5307 Machine Tool Applications:** Upon completion of this course, students will have completed assigned projects using skills learned in prerequisite courses including the following: planning work for correct machining and ease of operation; using machine tools and hand tools in a proper and safe manner; using proper work habits.
*Prerequisite: MAC 5311, MAC 5313, MAC 5422, MAC 5424. (0-9) 3

***MAC 5310 Computer Numerical Control Programming Applications:** Upon completion of this course, students should be able to write complex programs for the turning and machining centers,

key program with Numeridex System; edit programs for changes; plot part and produce tapes for programs; produce fixturing for parts; load programs from Numeridex terminal; set up tooling and fixtures; produce complex parts on both turning and machining centers.
*Prerequisite: MAC 5300, MAC 5304, MAC 5305, MAC 5303, MAC 5306. (2-2) 3

***MAC 5311 Basic Lathe Operations:** Upon completion of this course, students should be able to calculate the correct RPM's; state the reasons for correct speeds and feeds, and select the proper speeds and feeds for assigned projects; use proper work holding devices; select proper lathe tools; calculate and identify standard tapers; determine proper thread depths; perform operations with prescribed accuracy for straight turning, knurling, threading (external), boring, and tapering; use safe and proper techniques in all procedures.
*Corequisite: MAC 5200. (1-6) 3

***MAC 5313 Layout, Hand Tool, and Drill Press Procedures:** Upon completion of this course, students should be able to identify different types of drill bits and taps, and state the purpose of each; properly use hand tools normally used in machine shop work; use layout tools with prescribed accuracy; calculate correct drilling speeds; operate the drill press to drill, ream, countersink, counterbore, machine tap, layout and drill multiple holes.
*Corequisite: MAC 5200. (1-6) 3

***MAC 5315 General Machining and Maintenance:** Upon completion of this course, students should be able to repair broken and/or worn machine parts; produce left-hand and double-lead threads, both internal and external; calculate proper depths; use thread wires for measuring depths of threads; produce concave and convex radii using the rotary table; produce typical machine parts; complete industrial grade projects.
*Prerequisite: MAC 5311, MAC 5313, MAC 5422, MAC 5424. (1-6) 3

***MAC 5320 Calculations for Machinists II:** Upon completion of this course, students should be able to discuss angular measurement in relation to blueprints and shop drawings; solve for unknown dimensions and angles using right-angle trigonometry and symmetry; explain the practical application in the machinist trade of the Pythagorean Theorem; interpolate trigonometric functions from a table of such functions; use a sine-bar and gauge blocks to determine unknown measurements or angles; solve for unknowns using the law of sines and the law of cosines; apply angular measurement and right-angle trigonometry to shop calculations.
*Prerequisite: MAC 5401. (3-0) 3

MAC 5401 Basic Calculations for Machinists: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems in the machinist field; find direct and indirect ratios and proportions; read a scale and micrometer accurately; apply geometric formulas toward thread calculations; manipulate fractional and decimal numbers; perform area and volume calculations; use angular and geometric measurements in problem solving; apply simple algebraic equations to work problems; discuss measurement using the metric system as well as the English system. (4-0) 4

***MAC 5422 Basic Milling Operations:** Upon completion of this course, students should be able to calculate proper speed and feed rate for milling cutters, and state the importance of correct speed and feed selection; demonstrate proper and safe techniques with prescribed accuracy in face milling, shoulder milling, fly cutting, and horizontal plain milling.
*Corequisite: MAC 5200. (2-6) 4

***MAC 5424 Grinding Machine Operations:** Upon completion of this course, students should be able to describe grinding machine theory and practice; make proper abrasive selections; select appropriate speeds; demonstrate proper and safe techniques in operating with prescribed accuracy the horizontal surface grinder, and cylindrical grinder.
*Prerequisite: MAC 5311, MAC 5422. (2-6) 4

Manufacturing Engineering Technology

(See Engineering Technology)

Management/Business Administration

MGT 2314 Principles of Management: This is an introductory course in business management principles. Upon completion of this course, students should be able to describe the functions of managers; define management planning; recognize sound business objectives; illustrate organizational charts; design a staffing program; explain and apply leadership and decision-making to business cases; identify control measures useful to business operations. (3-0) 3

MGT 3303 Small Business Management: This is a course designed for those who may want to start and operate their own business, as well as those who are already business owners but wish to strengthen their entrepreneurial and management skills through development of a small business plan. Upon completion of this course, students should be able to assess the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; explain the techniques and principles of planning, organizing, directing, and controlling the operating venture. (3-0) 3

MGT 3331 Preparing Women As Managers: This course examines in depth the role of women as business managers. Upon successful completion of the course, students will be able to recognize basic management functions; demonstrate an understanding of socialization and its effects on women in management; demonstrate decision-making abilities; implement listening, verbal and non-verbal communication techniques; apply time management skills; handle workplace conflict; project a professional image; select an appropriate leadership style for varying situations; delineate current EEO laws affecting women in business, and employ specific career strategies toward career goal attainment. (3-0) 3

MGT 4322 Purchasing: Upon completion of this course, students should be able to define the purchasing function, describe purchasing's role in business, recognize the importance of quality assurance, explain the role purchasing plays in deciding to make or buy, discuss its relationships to other company departments, describe the importance of planning and forecasting, interpret the ethics of purchasing, develop the legal aspects of purchasing, explain the need for evaluating purchasing performance, describe EDP's usefulness in purchasing, detail the development of both the organization and personnel for purchasing, conduct purchasing computer simulation, and apply purchasing formulas and methods for cost analysis. (3-0) 3

MGT 4323 Advanced Purchasing Management: Upon completion of this course, students will understand purchasing on the executive level, including budgeting, use of decision trees, make or buy, procurement, personnel management, and value analysis. This course will enable students to understand on a professional level the entire purchasing profession. Students will participate in the CPM examination review. (3-0) 3

MGT 4330 Supervision: This is an introductory course in application of management principles and concepts to first-line supervisory positions. Upon completion of this course, students should be able to identify the position of the supervisor in the management structure; discuss the unique interpersonal relations required of the supervisor; identify manpower management techniques; explain the concept of job analysis and evaluation; describe supervisory leadership techniques for various job groups; evaluate the supervisor's role in labor relations. (3-0) 3

MGT 4331 Administrative Office Management: This is a course applying the principles and techniques of management to the flow of information within an enterprise. Upon completion of this course, students should be able to explain the application of the principles of management to the office organization, problem solving, communications in the office, space management, ergonomics in the design and layout of an office, equipping the office, the lease-buy decision, and health hazzards in the office environment. (3-0) 3

MGT 4332 Human Resources Management I: An introductory course in the field of human resources management. Upon completion of this course, students should be able to describe the application of management principles to human resources; describe the history of personnel management; list and describe sources used in internal and external recruiting; design a personnel selection procedure; formulate employee and management development plans; identify systems used for employee performance evaluation. (3-0) 3

***MGT 4333 Introduction to Industrial Management:** A course providing a survey of the planning, function, and control of the production process in a manufacturing organization. Upon completion of this course, students should be able to recognize and explain the underlying principles of industrial management; identify and illustrate the planning concepts used in a production system; demonstrate the scheduling of machine and personnel assets; explain the process of inventory control; outline the procedures used in quality control.
*Prerequisite: MGT 2314, BUS 3304. (3-0) 3

***MGT 4334 Management Seminar:** This is a course which expands the knowledge of principles and techniques acquired in Principles of Management and relates that knowledge to practical situations concerning the development of management strategy and policy through the techniques of lecture, case studies, and critical incident analysis. Upon completion of this course, students should be able to demonstrate improved deductive and decision-making capabilities through use of the case method and be able to

develop practical management strategies and policies to aid in organization-wide problem solving.
*Prerequisite: MGT 2314. (3-0) 3

MGT 4335 Production Planning and Control: This is a course in the application of management planning and control techniques to the production process. Upon completion of this course, students will be able to explain important concepts and implement procedures for master planning, capacity planning, inventory management and control, and scheduling and controlling of operations. Simulation using MAPICS software will be used to provide practical experiences in these topics. (3-0) 3

***MGT 4337 Human Resources Management II:** This is a course providing a continuation of the study of basic personnel management practices. Upon completion of this course, students should be able to define the factors in organizational climate; identify the channels of management communications; review the concept of managerial leadership; interpret the importance of labor relations in human resources management; design a basic wage and salary plan; outline a basic security and benefit system; and identify the role played by EEO, safety and health, and financial incentive plans in personnel management.
*Prerequisite: MGT 4332. (3-0) 3

***MGT 4338 Labor-Management Relations:** This is a course which examines the basic principles and strategies used in labor-management relations. Upon completion of this course, students should be able to recognize the rights and responsibilities of both labor and management; describe the negotiation and administration of a labor agreement; identify various labor outcomes such as discipline, labor security, minority rights, technological changes and wage/benefit issues; apply the labor relations process to governmental personnel matters, and identify the differences between public and private personnel procedures. Students having prior work experience in management may substitute their experience for the prerequisites with consent of division head.
*Prerequisites: MGT 4332, MGT 4337, or consent of division head. (3-0) 3

MGT 5200 Shop Management: This is a course designed to introduce the trade student to the business world and to the operation of a small business. Upon completion of this course, students should be able to describe the importance of the small shop in the economic system; identify problems in small business operations; assemble a set of guidelines for starting a small shop; recognize the importance of business law and the maintenance of business forms and records; gain an appreciation for the role of location, taxes, inventory, advertising, and employee relations in the success of a small shop. (2-0) 2

MGT 4356 Introduction to Materials Management: This course will outline the material management cycle. Upon completion of the course, students will be able to explain the various materials management structures and organizations. They will undertand how to function in the various business environments where materials management is applicable, and will be able to define the terms of materials management and the interrelationships of the various disciplines within the field of materials management. (3-0) 3

MGT 4357 Compensation Management: This is an advanced course in human resources management. Upon completion of the course, students will be able to demonstrate functional knowledge of the reward system, compensation legislation, job content and analysis, job evaluation, pay structures, merit pay, short and long-term incentives, benefits, and services. (3-0) 3

MGT 4361 Advanced Administrative Office Management: This course will expand students' knowledge of ergonomics in space management, layout and design of an office, and selection of furniture. Upon completion of the course, students should be able to recognize and explain word processing systems; describe reprographic and micro-graphic records management and telecommunications in the administrative services function; apply management principles to adminstrative office systems; and analyze decision necessary in office automation, office productivity, and budgetry control.
*Prerequisite: MGT 4331. (3-0) 3

Marketing and Retailing

MKT 1304 Marketing I: This course is the first of a two-part study of Marketing. Upon completion of this course, students should be able to explain the importance of marketing in our economic system; explain the marketing concept and the environmental and technological factors' impact on this concept; describe buyer behavior from economic, psychological and sociological points of view; identify and classify marketing activities; distinguish among the various marketing research methods; classify products; explain product pricing and distribution strategies and their relation to the marketing process. (3-0) 3

***MKT 1305 Marketing II:** Upon completion of Marketing II, students should be able to explain pro-

motion, pricing, and distribution, and their place in the marketing process; recognize marketing's place in current society and discuss contemporary issues; explain the growth in and importance of international marketing, as well as the significance of the balance of payments; explain a fully integrated marketing program; explain the significance of the computer as a tool in the marketing process; recognize career opportunities in marketing.
*Prerequisite: MKT 1304. (3-0) 3

MKT 3204 Cooperative Education I: Upon completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee. (0-20) 2

***MKT 3205 Cooperative Education II:** Upon completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: MKT 3204. (0-20) 2

***MKT 3206 Cooperative Education III:** Upon completion of this course, students should be able to perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: MKT 3205. (0-20) 2

MKT 3320 Fundamentals of Selling: This course is designed to provide students with a general survey of the various careers in selling and provide a thorough study of the selling process from preparation to closing of the sale. Upon completion, students should be able to collect proper data and prepare for a sales interview; conduct a successful sales interview including the approach, presentation, demonstration, meeting objections and closing; instill confidence and trust in the prospect by exhibiting confidence as a result of proper preparation. (3-0) 3

MKT 3330 Textiles: Upon completion of this course, students should be able to list and explain the physical properties of fibers; characterize and differentiate between major fiber groups; explain methods of fiber construction; differentiate between yarn types and explain their production; explain the methods used to add color and special finishes to fabrics. (3-0) 3

***MKT 4305 Advanced Selling Skills:** This course is a follow-up course for MKT 3320 and teaches alternative selling skills. Upon completion of this course, students should be able to develop strategic selling knowledge; plan methodically for a sale; focus on a dominant sales theme; use the trait development plan; use persuasive strategies; apply decision theories to buyers' behavior; apply various prospecting methods; use planning aids; use alternative approaches; set objectives for a presentation; use visual devices in a presentation; understand the psychology of objections; customize a close; apply acceptable business ethics to sales situations.
*Prerequisite: MKT 3320. (3-0) 3

MKT 4320 Retailing: Upon completion of this course, students should be able to differentiate between various types of retailers; evaluate franchises, including the contract, possible locations and potential store functions and personnel; explain the buying function and role of resident buying offices; apply merchandise pricing principles and formulas; schedule and plan merchandise handling areas; explain and evaluate various store security methods; discuss the role and importance of retail advertising and plan a store promotional activity; identify display material and techniques; complete a retail sale; explain credit and collection procedures. (3-0) 3

MKT 4321 Advertising: This course is designed to instruct the usage of advertising as a marketing tool. Upon the completion, students should be able to develop an advertising plan based on marketing objectives for a specific product or service. This course excludes the implementation of creative strategies. (3-0) 3

***MKT 4325 Sales Management:** Upon completion of this course, students should be able to explain the organization and functions of territorial, district, regional and company sales management; know the difference between various types of sales

organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting; record and file an expense account; make sales forecasts.
*Prerequisite: MKT 3320 or instructor permission. (3-0) 3

MKT 4340 Merchandising: Upon completion of this course, students should be able to describe the buying function and its relationship to other functional activities in the business; describe the similarities and differences of the buyer's responsibilities in departmentalized stores, centralized chain offices and resident buying offices; identify the staff departments that service and support selling and sales promotion activities; identify the merchandising techniques and information sourcess that are used in determining what and how much to buy; identify criteria used in the selection of resources. (3-0) 3

***MKT 4354 Visual Merchandising:** Upon completion of this course, students should be able to discuss the importance of display design as a visual merchandising medium and its use as a sales supporting activity; understand the basic principles and elements of design that are applicable to display design; differentiate between different types of displays, display organization, policies and procedures; discuss the display and design person's responsibilities and interrelationships with various departments; apply the physical elements of display compositions and arrangements.
*Prerequisite: MKT 4320. (3-0) 3

***MKT 4355 Channels of Distribution:** This course is designed as an in-depth study of marketing channels and the appropriate choice of channels for distribution of various products. Upon completion of this course, students should be able to define and apply channel management techniques, taking into consideration corporate objectives and environmental factors; design a channel for various products; understand logistics, sales and operation policies.
*Prerequisite: MKT 1305. (3-0) 3

MKT 4384 Customer Service: Upon successful completion of this course, the students should be able to explain the importance of customer relations in business; know how to plan for the customer through physical store layout, stock and special services; plan the advertising for a store; explain consumerism and its effect on various levels of employees. (3-0) 3

MKT 4385 Service Marketing: Upon completion of this course, students will become familiar with the shift in our economy to the marketing of services and intangible products. Specific topics of this course include: profitability in the service organization, communications, pricing, marketing the service organization, and the design of the service product including the operation, environment and personnel. (3-0) 3

MKT 4386 Marketing Research: Upon completion of this course, students will understand the role of marketing research, the stages of the research process, research designs for collecting primary data, measurement concepts, sampling and fieldwork, data analysis and interpretation. Students will conduct a marketing research project utilizing a computerized database. (3-0) 3

MKT 4387 Public Relations: Upon completion of this course, students will understand the basic concept and history of public relations; public responsibility and professionalism in public relations; the principles of public relations management including defining and choosing goals and objectives, as well as budgeting for public relations; reviewing legal constraints in public relations. In addition, students will study media, employee, community, and government relations dealing with consumers, environmentalists, minorities, and lobbying. Students will complete a public relations campaign. (3-0) 3

Mathematics

Prerequisites will be strictly enforced. Students who fail to provide the Mathematics Department with evidence of an acceptable mathematics background or of an adequte placement test score will not be allowed to register for mathematics classes.

***MAT 1504 College Algebra I:** This is the first of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. Students will recognize and apply the properties of the real numbers system; add, subtract, multiply, and divide polynominals and rational expressions; factor; define and use integral and fractional exponents; simplify radicals; rationalize denominators; solve first and second degree equations and inequalities in one variable; solve applied problems; define and graph linear functions, determine inverses of linear functions; determine composition of functions; add subtract, multiply, and divide functions. (MAT 1504 is not applicable to mathematics, engineering, or science majors.) Credit is not given to students already having credit for MAT 1514.
*Prerequisite: Placement examination or a grade of C or better in MAT 9510 or consent of department head. (5-0) 5

***MAT 1505 College Algebra II:** This is the second of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering or physical science. Students will define, graph, and use exponential and logarithmic functions; use properties of logarithms; compute with logarithms and calculators; solve logarithmic and exponential equations as well as applied problems; solve systems of linear equations and inequalities algebraically and using determinants; use linear programming; find permutations and combinations; determine probabilities of events; solve quadratic equations and inequalities; graph quadratic and other non-linear functions and relations; write equations for and graph conic sections; solve simultaneous second degree equations; use sequences, series, and summation notation; and solve applicatons using arithmetic and geometric progressions. (MAT 1505 is not applicable to mathematics, engineering, or science majors.) Credit is not given to students already having credit for MAT 1514.

*Prerequisite: A grade of C or better in MAT 1504, or consent of department head. (5-0) 5

***MAT 1507 Trigonometry:** Upon completion of this course, students should be able to use the trigonometric concepts and skills needed in basic sciences, technology, pre-engineering, and mathematics. They should be able to solve problems concerning right and oblique triangles, vectors, geometric concepts, identities, inverse trigonometric functions, complex numbers, and graphs of trigonometric functions.

*Prerequisites: High School Algebra II or a score of 104 on the computer placement test or consent of the department head. (5-0) 5

***MAT 1512 Calculus for Business and Social Sciences:** This is a brief treatment of the calculus for non-mathematics or non-engineering majors. Students will review functions and relations. They will be able to find limits; determine if a function is continuous; find derivatives of algebraic expressions by the definition; find derivatives by using differentiation techniques; differential implicit functions; find higher order derivatives; apply the derivative to find relative and absolute extrema; determine concavity and points of inflection; find differentials; evaluate definite and indefinite integrals; find areas by integration; differentiate and integrate exponential and logarithmic functions.

*Prerequisite: A grade of C or better in MAT 1505 or MAT 1514 or consent of the department head. (5-0) 5

***MAT 1514 Precalculus Mathematics I:** This is the first of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. Students will state and use the basic properties of the real number system; add, subtract, multiply, and divide algebraic expressions; factor; expand using the Binomial Theorem; solve first and second degree equations; define, graph and apply relations and functions; use straight lines and linear functions; solve polynomial equations of higher degree, solve linear and non-linear inequalities.

*Prerequisite: Placement examination or a grade of C or better in MAT 1504 or consent of the department head; Corequisite: MAT 9511 or high school geometry or consent of the department head. (5-0) 5

***MAT 1515 Precalculus Mathematics II:** This is the second of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. Students will solve systems of equations using algebraic, graphic, and matrix methods; define, graph, and apply exponential and logarithmic functions; define and apply trigonometric and circular functions; state and apply the addition and multiple angle formulas; prove identities; solve trigonometric equations; graph using symmetry, intercepts, asymptotes and excluded regions; state and apply the properties of the conic sections.

*Prerequisite: MAT 1514 or consent of the department head. (5-0) 5

***MAT 1524 Analytic Geometry and Calculus I:** This is the first of a four quarter unified sequence of calculus. (The four quarter sequence is recommended for students in engineering, mathematics, the physical sciences, and students who need more than an introduction to calculus.) Students will study algebraic and trigonometric functions with regard to the concepts of limits, derivatives, continuity, implicit differentiation, the differential and Newton's method of root approximation; apply the derivative to find extrema, increasing and decreasing intervals, concavity and graphing; and solve related-rate problems. Computer techniques will be used where applicable.

*Prerequisite: A grade of C or better in MAT 1515 and plane geometry or consent of the department head. (5-0) 5

***MAT 2504 Analytic Geometry and Calculus II:** This is the second of a four quarter sequence of calculus. Students will evaluate definite and indefinite integrals with regard to algebraic, exponential, trigonometric, logarithmic, hyperbolic and inverse functions; state and apply the Fundamental Theorem of calculus; apply calculus techniques to finding area, volume, work, pressure and study exponential growth and decay. Use summation notation and find approximations to area. Computer techniques will be used where applicable.

*Prerequisite: A grade of C or better in MAT 1524 or consent of department head. (5-0) 5

*__MAT 2505 Analytic Geometry and Calculus III:__ This is the third of a four quarter sequence. Students will solve integration problems by the techniques of substitution, parts, trigonometric substitutions, partial fractions, miscellaneous substitutions; use integral tables; use numerical integration. Solve analytic geometry problems involving the conic sections. Use the polar coordinate system (with regard to calculus ideas); find the liimit of indeterminate forms (via L'Hopital); evaluate improper integrals; use Taylor's polynomial and approximations; sequences and series. Computer techniques will be used where applicable.
*Prerequisite: A grade of C or better in MAT 2504 or consent of department head. (5-0) 5

*__MAT 2506 Analytic Geometry and Calculus IV:__ This is the last of a four quarter sequence. Students will perform operations on vectors in two and three dimensions; find derivatives and integrals of vector-valued functions in two and three dimensions; find velocity and acceleration; determine domain, continuity and the differentiability of functions of more than one variable; find partial derivatives, total derivatives, higher-order partial derivatives, directional derivatives, gradients; evaluate and apply partial derivatives. Apply multiple integrals (including double integrals, iterated integrals, center of mass, double integrals in polar coordinates, surface area and triple integrals). Computer techniques will be used where applicable.
*Prerequisite: A grade of C or better in MAT 2505 or consent of department head. (5-0) 5

*__MAT 2508 Ordinary Differential Equations:__ This is a first course in the study of differential equations. Upon completion of this course, students will be able to solve ordinary differential equations by the standard methods of solution. This includes the methods of variable separable, first-order, exact, homogeneous, equations reducible to first-order, existence and uniqueness of solutions, homogeneous equations with constant and variable coefficients, Euler, linear homogeneous by Taylor's series, nonhomogeneous and undetermined coefficients; variation of parameters; elimination and matrix method to homogeneous linear solutions; variation of parameter to non-homogeneous systems; the Laplace transform applied to differential equations and systems; series solution of second-order linear equations; boundary value problems including eigen values and eigen functions; numerical solutions including Euler Taylor, Runge-Kutta and systems of first-order. In addition, students will demonstrate an understanding of the general theory of ordinary differential equations and the application of differential equations to present-day engineering problems. Computer techniques will be used where applicable.
*Corequisite: MAT 2506, or consent of the department head. (5-0) 5

*__MAT 2514 Statistics I:__ Students will organize, analyze and interpret statistical data; calculate measures of central tendency and dispersion; state and apply basic probability laws; draw statistical inferences using random sampling and the binomial, normal +, and chi square distributions; test hypotheses, find sample sizes and confidence intervals for a single population.
*Prerequisite: A grade of C or better in MAT 1504 or MAT 3504 or MAT 3507 or consent of the department head. (5-0) 5

*__MAT 2515 Statistics II:__ This is a continuation of Statistics I. Students will draw statistical inferences using student's t, chi-square, and F distributions for two populations; design experiments; use analysis of variance, contingency tables and linear regression; evaluate the correlation coefficient; test the utility of a multiple regression model; use non-parametric methods including the sign test. Students will select and prepare an individual project.
*Prerequisite: A grade of C or better in MAT 2514, or consent of the department head. (5-0) 5

*__MAT 2590 Individual Study:__ This course will provide students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Mathematics Department. Each student or group of students works under the supervision of a member of the Mathematics Department.
*Prerequisite: Approval of the sponsoring instructor and the department head. (5-0) 5

*__MAT 3306 Technical Trigonometry:__ Students will define the trigonometric ratios; solve right triangles; find resultants and components of vectors; add vectors; find trigonometric ratios of standard position angles; solve oblique triangles using the laws of sines and cosines. (3-0) 3

MAT 3500 Mathematics for Fire Protection: This is a technical mathematics course designed to meet the needs of the Fire Protection program. Students will perform basic arithmetic operations on whole numbers, fractions, and decimals; find areas and volumes; solve linear equations; solve problems using ratio and proportion; and reduce or convert measurements. (5-0) 5

MAT 3501 Mathematics for Public Safety: This is a technical mathematics course designed to meet the needs of the Public Safety program. Students will perform the basic operations of arithmetic on whole numbers, fractions, and decimals; find percentages and averages; use the metric system; solve equations; set up and apply ratio and proportion; use consumer mathematics. (5-0) 5

MAT 3504 Technical Mathematics I: Students will solve fractional, non-fractional, and quadratic equations; find special products and factor; graph; perform operations on algebraic fractions; rearrange formulas; solve systems of equations; and use matrices and determinants. (5-0) 5

***MAT 3505 Technical Mathematics II:** Students will perform operations on polynomials; solve and graph linear equations; simplify and perform operations on square root radicals; solve radical equations and formulas; graph non-linear functions; and find powers and roots.
*Prerequisite: A grade of C or better in MAT 3504 or consent of department head. (5-0) 5

***MAT 3507 Engineering Technology Mathematics I:** Students will perform the basic operations on algebraic expressions; evaluate and solve formulas; define and recognize a function; graph functions; solve systems of linear equations graphically, algebraically, and by determinants; define and use trigonometric functions to solve right triangles; find trigonometric functions of any angle, find rector sums and differences; apply readians to problem solving; solve oblique triangles by laws of sines and cosines.
*Prerequisite: Placement examination or a grade of C or better in MAT 9510 or consent of department chairman; Corequisite: high school credit in geometry or MAT 9511. (5-0) 5

***MAT 3508 Engineering Technology Mathematics II:** This is a continuation of MAT 3507. Students will add, subtract, multiply, and divide algebraic fractions; solve quadratic equations by factoring, completing the square, and quadratic formula; perform basic operations on expressions containing exponents, radicals, complex numbers, logarithms, exponential functions; and evaluate determinants using cofactors.
*Prerequisite: A grade of C or better in MAT 3507 or consent of department chairman. (5-0) 5

***MAT 3509 Engineering Technology Mathematics III:** This is an applied course in analytic geometry and calculus designed for engineering technology students. Students will solve inequalities, verify trig. identities, solve plane analytic geometry problems related to the circle, parabola, ellipse, hyperbola, and straight line; find limits, slope of a tangent line to a curve, and derivatives; differentiate polynomials, products, quotients, powers and implicit functions; apply the derivative to tangents and normals, curvilinear motion, related rates, curve sketching, Newton's method to solve equations, and maximum minimum problems.
*Prerequisite: A grade of C or better in MAT 3508 or consent of department head. (5-0) 5

MAT 3516 Introduction to Statistical Process Control: Upon completion of this course, students should be able to know about the history of Process and Quality Control and especially how it relates to foreign competition; know how to make frequency distributions and histograms; compute mean, median, mode, standard deviation, and range; understand the differnce between prevention and detection, and how these apply to modern industry; make and use Cause and Effect Diagrams, Pareto Charts, and Stem and Leaf Diagrams; make, use, and interpret various control charts for Variables including "X-R", "X-s", "Individuals" charts; make, use, and interpret various control charts for attributes including "p", "np", "c", and "u"; know how to find process capability; know about efficient and inefficient industrial operations from various case studies. (5-0) 5

***MAT 4507 Engineering Technology Mathematics IV:** This is a continuation of MAT 3509. Students will find differentials, antiderivatives, indefinite integrals; integrate numerically; and evaluate integrals using the Trapezoidal Rule. Students will also apply integration to practical problems; find derivatives of transcendental functions; use various methods of integration to evaluate intervals; and expand functions in series using Maclaurin, Taylor and Fourier Series.
*Prerequisite: A grade of C or better in MAT 3509 or consent of department head. (5-0) 5

MAT 5304 Basic Mathematics I: Upon completion of this course, students should be able to perform arithmetic operations on whole numbers, fractions, and decimals; solve problems relating to percents, metric measurements, graphs; perform for both flat and solid shapes; perform simple operations involving the fundamentals of applied trigonometry, such as concepts or right triangle trigonometry, sine, cosine, and tangent. Applications designed specifically for students in the Mechanical Drafting curriculum.
(3-0) 3

***MAT 5305 Basic Mathematics II:** Upon completion of this course, students should be able to perform simple operations involving the fundamentals of applied algebra such as symbols, first degree equations, ratio and proportions, exponents and radicals; perform simple operations involving tolerances, classes of fits and dimensional tolerancing.
*Prerequisite: A grade of C or better in MAT 5304 or consent of department head. (3-0) 3

Mathematics— Advancement Studies

MAT 9300 Math Anxiety Reduction: Upon completion of this course, students should be able to demonstrate an awareness of math anxiety, develop personal strategies for reducing math anxiety as an obstacle to scholastic achievement, demonstrate improved mathematical skills in specific course areas, and exemplify positive behavior and self confidence in the subject matter. (3-0) 3

MAT 9500 Arithmetic I: This course is designed to provide additional information and practice for individuals who have not yet mastered the basic skills of arithmetic. This course covers the topics of whole numbers, fractions, decimals, introductions to percents and U.S. measurements. MAT 9500 is offered as a lecture class on campus and as a self-paced class at learning centers. (5-0) 5

MAT 9501 Arithmetic II: This course provides an opportunity to gain knowledge, application, and skills in basic mathematics that are necessary for entry into many programs at CPCC. This course is designed to meet the needs of all students who have mastered the skills level of MAT 9500 (Arithmetic I). MAT 9501 focuses on such topics as ratio and proportion, percent application, metric system, geometry, graphs, and introduction to algebra. This course allows for a great deal of flexibility in learning. It is offered on campus as a lecture class and off campus as a self-paced course. (5-0) 5

MAT 9502 Developmental Algebra I: This is a course designed for students who have not had high school Algebra I or for those whose Algebra Placement Test at CPCC indicates a need to review Algebra I. On the main campus, the course is taught by lecture while at the off-campus Learning Centers, the course is self-paced (self-taught) with Facilitator assistance. Upon completion of MAT 9502, students should be able to solve problems relating to the language and symbolism of algebra, elementary set theory, algebraic properties of the real numbers; find solutions of first degree equations; plot graphs of linear equations; find solutions of linear equations by graphing and algebraic methods; factor polynomial expressions; solve fractional equations; and simplify radicals. Students will follow MAT 9502 with a quarter in MAT 9510 before advancing to college or technical mathematics. (5-5) 5

***MAT 9510 Developmental Algebra II:** This is a course designed for students whose algebraic background is limited to the equivalent of high school Algebra I **or** for those whose Algebra Placement Test at CPCC indicates a need to review algebra before entering college or technical mathematics. The course is presented by lecture in sections taught on the main campus, is self-taught with Facilitator assistance at the off-campus Learning Centers. Upon completion of MAT 9510, students should be able to solve first degree equations and inequalities in one variable, solve a system of two equations in two variables both grahically and algebraically, graph first degree inequalities in one variable, factor quadratics, simplify second and third order radicals, simplify expressions involving integer or other rational exponents, solve rational equations, solve second order radical equations, solve quadratic equations having real roots (by factoring, completing the square and using the quadratic formula), utilize a scientific calculator to evaluate powers or roots and rearrange formulas. Upon completion, students should be prepared for MAT 3504 if in Business Data Processing Technology, MAT 3507 if in Engineering Technologies, or MAT 1504 if in the College Transfer program.
*Prerequisite: A grade of at least C in MAT 9502 **or** an appropriate score on the CPCC Algebra Placement Test. (5-0) 5

***MAT 9511 Modern Geometry:** This is a lecture course stressing plane geometry, with a brief coverage of trigonometry and solid geometry. The course is designed for students who need a review of high school geometry **or** who never took high school geometry. Upon completion, students should be able to do simple proofs, be able to solve problems relating to triangle congruence and similiarity, be able to do the basic geometric constructions, be able to use scientific calculator or table to evaluate a trigonometric function or find the missing angle, be able to find missing parts of a right triangle by trigonometry (including use of a scientific calculator), find perimeter/area/volume of certain geometric figures and work with parellel lines.
*Prerequisite: A grade of at least C in MAT 9502 **or** an Algebra Placement Score sufficient to enter MAT 9510 or beyond. It may be taken concurrently with MAT 9510, MAT 3504, MAT 3507, MAT 1504 or MAT 1514. (5-0) 5

Mechanical Drafting—

(See Drafting, Mechanical)

Mechanical Engineering Technology—

(See Engineering Technology)

Medical Assisting

***MED 3300 Drug Therapy:** Upon completion of this course, students should be able to identify major drugs and/or drug groups; recognize side effects; describe interaction of drugs; relate various methods of administration of drugs to reaction.
*Prerequisite: Fifth quarter standing or departmental approval. (3-0-0) 3

MED 3302 Medical Lab Fundamentals: Upon completion of this course, students should be able to identify and explain medical aseptic practices; relate diagnostic and therapeutic procedures to basic body functions and correlate these procedures for assisting with a physical exam to normal body tissues; use the correct medical terminology in order to communicate with the health care team. (2-2-0) 3

***MED 3303 Clinical Lab I:** Upon completion of this course, students should be able to maintain a physician's office in regard to housekeeping and maintenance; carry out medical and surgical asepsis and list procedures and situations in which each is applied; demonstrate correct procedures for assisting the physician with physical examinations; describe the legal standards for drug administration and calculate dosages; demonstrate a working knowledge of basic nutrition.
*Prerequisites: MED 3302, MED 3304. (2-2-0) 3

MED 3304 Medical Terminology and Vocabulary I: Upon completion of this course, students should be able to read and understand medical terms; build medical terms from Greek and Latin prefixes, suffixes, word roots and combining forms; spell medical terms correctly; use a medical dictionary; use appropriate abbreviations and symbols. (3-0-0) 3

***MED 3305 Medical Terminology and Vocabulary II:** Upon completion of this course, students should be able to pronounce and spell correctly certain medical terms; define medical terms as they pertain to anatomy, physiology, and diseases, operations, tumors, drugs, and related descriptive terms; demonstate ability to build medical words and analyze word components. The above objectives will apply to the following system: skin and breast musculoskeletal, cardiovascular, blood and blood forming organs, respiratory, systemic diseases and oncology.
*Prerequisite; MED 3304. (3-0-0) 3

***MED 3306 Medical Terminology and Vocabulary III:** A continuation of MED 3305 with objectives applying to the following systems: neurological and psychiatric, urogenital, gynecological and obstetrics, endocrine, sense, digestive.
*Prerequisite; MED 3304 (3-0-0) 3

***MED 3307 Symptomatology:** Upon completion of this course, students should be able to assess signs and symptoms of disease and take appropriate action when dealing with patients in a medical facility. Problem solving techniques will be utilized.
*Prerequisite: Fifth quarter standing or department approval. (3-0-0) 3

***MED 3404 Medical Economics:** Upon completion of this course, students should be able to keep a single entry set of books; maintain peg board; maintain a checking account; follow an efficient billing schedule; compose effective collection letters; apply rules for telephone requests for payment; handle special collection problems; explain medical fees, and assist patient in planning financing of medical care.
*Prerequisite: Pre-entrance testing. (3-2-0) 4

***MED 3515 Medical Office Administration:** Upon completion of this course, students should be able to demonstrate skills in effective telephone technique; receive patients; arrange appointments; maintain accurate patient records; handle mail; manage all office records; file insurance claim forms; process written communications; make travel arrangements, perform editorial duties, and describe supervisory skills needed in a medical office.
*Prerequisite: MED 3404, SEC 3404, EDP 3310, ENG 1504. (5-0-0-5)

MED 4302 Medical Ethics and Law: Upon completion of this course, students should be able to describe the laws that govern the practice of medicine; differentiate between the various medical practice arrangements and their legal implications; describe each medical service available to the public in the community and the way each contributes to comprehensive care; explain the meaning of the A.M.A. principles of Medical Ethics and discuss how each applies to the physician and the staff; list the Supreme Court decisons in which the Medical profession is directly involved. (3-0-0) 3

***MED 5104 Medical Assisting Seminar:** Upon completion of this course, students will have begun to explore the personal and vocational responsibilities of a practitioner in the field of medical assist-

ing. A discussion of the problems encountered during the practicum and solutions which may be applied will be shared.
*Prerequisite: Fourth quarter standing; Corequisite: MED 5707, MED 5315, HRC 5302. (1-0-0) 1

***MED 5204 Orientation to Health Careers:** Upon completion of this course, students should be able to identify the important historical contributions to modern medicine; explore major allied health professions and the personal/professional requirements of each; develop skills in psychological assessment of both self and patients.
*Prerequisite: Pre-entrance testing or departmental consent. (2-0-0) 2

***MED 5400 Clinical Education A:** This course will involve the identification of a project in a prearranged medical agency; the collection and analysis of data and the presentation of findings. Students must obtain prior approval by the instructor.
*Prerequisite: Seventh quarter standing. (2-0-6) 4

***MED 5315 Advanced Medical Office Procedures:** Upon completion of this course, students should be able to assist the physician and explain the preparation of the patient who is to have such advanced diagnostic procedures as chemotherapy, radiation and nuclear medicine; demonstrate correct methods of administering medication, restraining methods, growth pattens and collection of specimens for the pediatric patient; administer CPR.
*Prerequisite: Fourth quarter standing. Corequisite: HRC 5302, MED 5104, MED 5707. (3-0-0-3)

***MED 5503 Clinical Lab II:** Upon completion of this course, students should be able to identify all equipment and supplies and establish a method of inventory; select, assemble, and prepare sterile supplies and equipment needed to assist in surgical procedures using aseptic technique; take blood pressure using palpation and auscultation methods; demonstrate eye and ear irrigations and instillations; prepare and administer medications safely and accurately; demonstrate recording and mounting of elecrocardiogram; demonstrate professionalism by dependablity, responsiblity, and initiative.
*Prerequisite: Completton of first two quarters; Corequisite: MED 5614. (2-6-0) 5

***MED 5614 Laboratory Procedures:** Upon completion of this course, students should be able to cite the laboratory rules of safety; handle the equipment and reagents in a safe, responsible manner; identify the equipment, glassware, and supplies by sight and use; demonstrate the basic knowldege of the simple laboratory tests done in a physician's office by performing the test with accurancy, speed, personal integrity and complete honesty.
*Prerequisite: Completion of first two quarters; Corequisite: MED 5503. (3-6-0) 6

***MED 5707 Medical Office Practice:** This course is a practicum in Medical Assisting. Each student is assigned to a physician's office, clinic, or out-patient department. Upon completion of this course, students should be able to perform the duties of the medical assistant as they apply to the assigned office; demonstrate professional and communication skills necessary for the effective care of the patient; express an understanding of the practice of comprehensive health care in the community.
*Prerequisite: Completion of first 3 quarters; Corequisite: MED 5104. (0-0-21) 7

Medical Office Technology

(See Secretarial, also the key for individual courses.)

Medical Record Technology

MRT 3201 Orientation to Medical Record Technology: Upon completion of this course, students should be able to describe the duties and educational requirements of the major allied health professional; explain the functions of the major departments of a hospital; match the allied health professional to the hospital department; trace the historical development of medicine, health care facilites, and medical records; describe the structure of the AMRA, its history and categories of membership; define "professionalism"; discuss the characteristics and qualities of a professional; discuss the new trends in health care delivery system; identify at least ten health agencies and cite the purpose of each; describe the basic functions of a medical record department; discuss the various job opportunities of the ART; correlate the course in the MRT program with the appropriate job responsibilities in the medical record department. (2-0-0) 2

***MRT 3204 Directed Practice I:** This is the first in a series of three courses which provide supervised clinical learning experiences in local health care facilities. Students should be able to demonstrtate competently the ability to communicate effectively with others; accept the personal responsibilities of promptness, personal neatness, and learning of departmental

medical record procedures and practices; apply the theory of medical record practices acquired in MRT 3300 and MRT 4312 by performing skills as provided in the general hospital.
*Prerequisite or corequisite: MRT 3300, MRT 4312, MRT 4315, or departmental consent. (0-0-6) 2

MRT 3205 Health Record Procedures I: Upon completion of this course, students should be able to describe the four major types of health care facilities; identify major allied health professionals; describe the three basic types of numbering methods utilized; state the purpose of the Master Patient Index; describe two methods for arranging patient index cards; describe three formats of the medical record; list six purposes of the medical record; identify forms included in a medical record and the individual responsibile for completing each form; assemble records in the prescribed order accurately. (1-2-0) 2

***MRT 3206 Health Procedures II:** Upon completion of this course, students should be able to recognize when a record is technically incomplete; perform the analysis of records accurately; describe the three basic methods of filing; apply the basic principles for filing; describe the two basic types of filing equipment; list four steps to be followed to insure accurate filing; list three examples of filing supplies used to assist the file clerk; describe the steps in preparing a record for microfilming.
*Prerequisite: MRT 3205. (1-2-0) 2

MRT 3300 Medical Record Content and Maintenance: Upon completion of this course, students should be able to describe various numbering and filing systems; retrieve and file medical records by each of the three major filing systems; describe the value, uses and contents of medical records; identify and describe the contents of various medical record forms; perform assembly and quantitative analysis of the medical record; describe the basic formats of medical records; describe and plan for different methods of record storage. (2-2-0) 3

***MRT 3301 Quality Assurance in Health Care Facilities:** Upon completion of this course, students should be able to state the purpose and philosophy of quality assurance; discuss the impact of current health legislation on quality assurance; discuss the history and current status of quality assurance; describe the organization of the Peer Review Organization system; state the JCAHO and federal assurance/assessment procedures; perform data collection and display utilizing various type of formats; discuss and perform the basic medical record procedures related to patient review procedures, cite the functions of a cancer registry; collect and process data for a cancer registry.
*Prerequisite or corequisite: MRT 3302, MRT 4315, MRT 4312, or departmental consent. (2-2-0) 3

***MRT 3302 Basic ICD-9-CM Coding:** Upon completion of this course, students should be able to discuss the evolution of ICD-9-CM; define the symbols, abbreviations, and conventions used with ICD-9-CM; apply the coding principles of ICD-9-CM with 80% accuracy; code and retrieve diagnoses and procedures proficiently.
*Prerequisite: BIO 1504, BIO 1505, MED 3305, MED 3306, or departmental consent. (1-4-0) 3

***MRT 4408 Intermediate Coding:** Upon completion of this course, students will be able to apply the coding principals of ICD-9-CM with 80% accuracy; code and retrieve diagnoses and procedures proficiently; discuss the evolution of CPT coding; define the symbols, abbreviations, and conventions used with CPT: apply the coding principles of CPT with 80% accuracy; code and retrieve diagnoses proficiently.
*Prerequisite: MRT 3302.

***MRT 3303 Advanced Coding Concepts:** Upon completion of this course, students should be able to apply ICD-9-CM principles in coding medical records; develop procedures for quality control of coding; discuss the methods for indexing diagnoses and operations; index diagnoses and operations in manual and computerized systems; discuss the prospective payment system and its relationship to coding practices; define the terms related to the prospective payment system; determine the diagnostics related group number for a given sample of medical records; discuss the purposes of nomenclatures and classification systems; apply the coding principles of a variety of nomenclatures and classification sytems; identify the health care facilities utilizing each of the systems.
*Prerequisite: MRT 3302, MRT 4408, or departmental consent. (1-4-0) 3

***MRT 3414 Medical Record Statistics:** Upon completion of this course, students should be able to compute the various hospital statistics and prepare reports; define all terms related to hospital statistics; discuss the procedures for completing vital stastistics on births, deaths, and reportable diseases; discuss the sources and use of health data; cite the major functions of a Cancer Registry.
*Prerequisites: MAT 1504 or departmental consent. (2-4-0) 4

***MRT 3424 Principles of Disease:** Upon completion of this course, students should be able to classify disease processes according to their etiology and oraan system involvement; discuss the physical signs and symptoms, complications, and preferred

treatment of specific disease processes.
*Prerequisite: BIO 1504, BIO 1505, MED 3305, MED 3306, or departmental consent. (4-0-0) 4

MRT 4312 Legal Aspects of Medical Records: Upon completion of this course, students should be able to discuss the jurisdiction of the Federal and State courts; discuss the development of legislative and case laws as they relate to changes in social mores; describe the laws written by non-governmental bodies which affect the medical records; describe the property rights and ownership of the medical record; discuss the medical record as a legal document; discuss contents, authorization and releases of medical information; describe statutes and hospital policies which govern the uses of medical records and the information contained in them; discuss the current health legislation which affects the medical record practitioner. (2-2-0) 3

MRT 4315 Medical Records Standards and Regulations: Upon completion of this course, students should be able to identify the major accrediting and licensing agencies and the purpose of each; discuss the role of the JCAHO; cite the medical record standard set forth under Medicare/Medicaid and JCAHO; describe the health record standard for long term and acute care facilties; recognize the basic standard for the various hospital departments with emphasis on the medical record regulations. (3-0-0) 3

***MRT 4405 Medical Record Seminar:** Upon completion of this course, students should be able to discuss the various personal and vocational responsibilities of the medical record practitioner; analyze problems which are encountered as a medical record practitioner, and discuss solutions; discuss various sources of information and assistance which are available to the practicing medical record professional.
*Prerequisite: Sixth quarter standing, or departmental consent. (4-0-0) 4

***MRT 4406 Directed Practice II:** Upon completion fo this course, student should be able to demonstrate competent performance of medical record functions in hospital medical record departments to include compilation of statistical reports, coding for prospective payment system, quality assurance, and utilization review procedures; discuss work flow; prepare job description and procedures; compare procedure as performed in hospitals of various sizes, describe the various professional roles of the medical record technician with a hospital; demonstrate professional conduct in preserving confidentiality of health information.
*Prerequisite: MRT 3204, or departmental consent. (0-0-12) 4

***MRT 4407 Directed Practice III:** Upon completion of this course, students should be able to demonstrate competent performance of medical record functions and work flow in various types of health care facilities to include mental health centers/hospitals, group practices clinics, long term care facilities and others as available; describe professional clinics, long term care facilities and others as available; describe professional conduct in preserving confidentialty; prepare job descriptions and procedures; describe the various professional role of medical record technicians.
*Prerequisite or corequisite: MRT 4206, or departmental consent. (0-0-12) 4

Medical Transcription

***MET 3204 Medical Transcription Seminar:** Upon completion of this course, students should be able to identify problems that may arise when working as a Medical Transcriptionist; suggest ways to solve these problems in a manner in keeping with the professional worker; express increased knowledge of basic procedures and understanding of the medical practice gained by reviewing and sharing experiences and oral reports.
*Corequisite: MET 3505. (2-0-0) 2

***MET 3400 Introduction to Medical Transcribing:** In this course, students will be introduced to material that is routinely transcribed in a medical office. Upon completion of this course, they should be able to transcribe given medical material accurately.
*Prerequisites: MED 3304, SEC 3404, MED 3302. (2-4-0) 4

***MET 3406 Clinical Practice II:** This is the practice of medical transcription in a physician's office or hospital record room. Upon completion of the course, students should be able to operate transcription equipment efficiently; demonstrate competency in transribing medical reports; establish positive rapport with co-workers; utilize and organize time to best advantage.
*Prerequisite: MET 3904. (0-0-12) 4

***MET 3505 Clinical Practice I:** This is the practice of medical transcription in a physician's office or hospital record room. Upon completion of the course, students should be able to operate transcription equipment efficiently; demonstrate competency in transcribing medical reports; establish positive rapport with co-workers; utilize and organize time to best advantage.
*Prerequisite: MET 3904. (1-0-12) 5

***MET 3904 Transcription:** Upon completion of this course, students should be able to demonstrate operation of dictating machines correctly and efficiently; given practical situations, identify ethical and legal aspects of medical transcription; given worksheets, demonstrate competency in the use of dictionaries, PDR, and other references; transcribe medical reports and correspondence from a cassette, record, or belt into a final typed mailable and permanent form in an assigned length of time; given discussion and medical terms, relate the disease process with diagnostic and therapeutic procedures and with the anatomical parts involved; given transcribed medical reports, read and explain the content of the report.
*Prerequisite: MET 3400, MED 3305, MED 3306. (4-10-0) 9

Music

MUS 1100 Vocal Ensemble: This performing laboratory will prepare students for public performance at the end of the session. Emphasis is upon sight-singing, demonstration, and use of proper vocal techniques, tonal production, and ensemble performance. Each student will be given the opportunity to perform representative compositions from the major periods in music. May be taken six times for credit. (0-3) 1

MUS 1104 Class Voice: Upon completion of this course, students shoudd be able to demonstate correct posture, breathing, and support for the resonation of vowels, proper diction; perform selected pieces for song literature. ((0-2) 1

MUS 1105 Class Voice II: Upon completion of this course, students should be able to perform from memory in recital an art song, aria, and other song demonstrating an understanding of acceptable performance standards, musical styles, translations, and the use of the International Phonetic Alphabet. (0-2) 1

MUS 1107 Chamber Choir: This is a practical performing class designed to acquaint students with various styles of choral music culminating in a public performance at the end of the session. The program may vary each quarter depending upon vocal abilities and size and balance of the choir. Emphasis is placed upon correct tonal production, proper vocal techniques, sight-reading, ensemble performance, and repertoire. May be taken six times for credit. (0-3) 1

MUS 1117 Wind Ensemble: An organization designed to provide the opportunity for wind instrument students to continue the study of their particular instruments and to become familiar, through ensemble performance, with music of various composers, periods, and styles. May be taken six times for credit. (0-3) 1

MUS 1122 Fiddle—Blue Grass and Old-Time: Upon completion of this course, students should be able to tune and maintain their instruments; demonstrate a working knowledge of chords; play a minimum of ten songs; accompany other musicians; demonstrate the ability to read music. (0-3) 1

MUS 1127 Orchestra: An organization designed to provide continuing performance opportunity for students who have already developed some skills on an orchestral instrument. Emphasis will be placed on further development of each student's playing ability and an acquaintance with orchestral literature. May be taken six times for credit. (0-3) 1

MUS 1128 Concert Band: An organization designed to provide performance opportunity for students who have already developed skills on a band instrument. Emphasis is placed on further development of skills on particular instruments as well as acquaintance with band literature. May be taken six times for credit. (0-3) 1

MUS 1132 Introduction to Sight-Singing and Ear Training: This is a class designed to acquaint students with the principles of solfege and pitch organization, rhythmic patterns, and basic harmonic progression. Upon completion of this course, they should be able to recognize and transcribe intervals, diatonic melodies, simple rhythms and basic chord progressions. (0-2) 1

MUS 1133 Banjo—Old-Time Music: Upon completion of this course, students should be able to tune the banjo in G, C, and C minor; use a capo for addtional tunings; demonstrate the basic chord position in the three main tunings; play with a rhythmic clawhammer style including the drop thumb technique; coordinate left and right hands without difficulty; play selected tunes in the text from memory; demonstrate the ability to read tablature from the text. (0-3) 1

MUS 1136 Clawhammer Banjo II: Upon completion of this course, students should be able to play at least five tunings comfortably with the use of a capo; play the most common fingering patterns in each tuning; play traditional tunes up to tempo; play selected tunes from memory; demonstrate the ability to write simple tablature. (0-3) 1

MUS 1139 Old-Time Music "Jam": Upon completion of this course, students should be able to participate actively as a performer in an old time music "jam"; demonstrate skills in performing, both vocally and on instruments of their choice; demonstrate poise and skill in leading the class in specific music; demonstrate an acquaintance with several kinds of "traditional" music. (0-3) 1

MUS 1154 Class Piano I: In an electronic piano laboratory setting, students will receive group instruction in the basic principles and techniques of piano playing for the beginning student. Upon completion of this course, students should demonstrate ability in playing and spelling pentachords chromatically in all major keys; in playing the chord progression I-IV6/4-V6/5 and simple two-hand compositions in keys of C and G; in sight-reading and improvisation; in identifying intervals through the sixth. (0-3) 1

MUS 1155 Class Piano II: A continuation of MUS 1154. Students will be introduced to and demonstrate mastery of major tetrachord scales and key signatures, chord progression I-IV6/4-V6/5 in all white keys, traditional scale fingerings in C, more advanced repertoire, sight-reading, and improvisation primarily in keys of C, F, and G. (0-3) 1

MUS 1156 Class Piano III: A continuation of MUS 1155 consisting of an integrated study of literature and theory. Upon completion of this course, students should be able to play—in addition to a number of pieces—the chord progression I-IV6/4-V6/5 in all major keys, minor pentachords chromatically, the chromatic scale. They should know the principles of traditional scale fingerings in major keys, and show some mastery of the damper pedal. (0-3) 1

MUS 1157 Intermediate Piano I: Upon completion of this course, students should have developed skills in reading, technique, theory, and muscianship needed to play a number of pieces selected from standard piano literature. (0-3) 1

MUS 1158 Intermediate Piano II: Upon successful completion of this course, students should have developed skills in reading, technique, theory, and musicianship needed to play more complex pieces selected from standard piano literature. (0-3) 1

MUS 1160 Classical and Flamenco Guitar: Upon completion of this course, students should be able to read guitar music, play major and minor chords, some seventh chords, and perform selected solos by Bach, Beethoven, Torego, Aguado and Lori. They should also be able to perform right and left hand classical technique Carcassi studies and right hand studies in the tremolo technique and flamenco strums and rasguados. (0-3) 1

MUS 1164 Guitar: Upon completion of this course, students should be able to read guitar music in the first position; perform a selected number of guitar solos, single note passages, and duets. They should also be able to play chords in the first position and be able to transpose to other selected keys. (0-3) 1

MUS 1165 Guitar II (Intermediate): Upon completion of this course, students should be able to read blocked and arpeggiated chords, demonstrate ability to play both a melody and accompanying arpeggio pattern; perform a selected number of etudes; arrange for solo guitar a song (or songs) to include melody with accompaniments; demonstrate increased ability to read single line. (0-3) 1

MUS 1166 Folk Music Guitar I: Upon completion of this course, students should be able to play a select number of basic chords; use different strumming techniques; play simple accompaniments of folk songs for singers; read simple folk music for guitar; demonstrate a general knowledge about the instrument and its historical development. (0-3) 1

MUS 1167 Folk Music Guitar II: Upon completion of this course, students should be comfortable with their instruments and be able to join in informal "jam" sessions with other folk musicians using basic chords and notes. They should be able to play at an intermediate level and will have accumulated a sizeable collection of traditional folk music. (0-3) 1

MUS 1171 Chords I: Upon completion of this course, students should be able to translate standard chord symbols into notes and play them on the keyboard; supply the proper symbol for any given chord; reharmonize simple tunes and reduce them to lead sheets. (0-2) 1

MUS 1172 Chords II: Upon completion of this course, students should be able to interpret and play most standard lead sheets; reharmonize given melodies both in writng and on the keyboard; transpose to any given key. (0-2) 1

MUS 1177 Appalachian Dulcimer: Upon successful completion of this course, students should be able to tune and properly maintain the Appalachian Dulcimer; demonstrate the ability to hold the dulcimer and to change chords by fretting all strings properly; demonstrate an understanding of rhythm, meter, and pitch; demonstrate skills in playing; strumming, flatpicking and finger-picking; demonstrate the ability to play from tablature and "by ear", and demonstrate the ability to play simple melodies. (0-3) 1

MUS 1189 Autoharp: Upon completion of this course, students should be able to tune and properly maintain the autoharp; demonstrate the ability to hold the autoharp properly and to change chords with facility; demonstrate an understanding of rhythm, meter, pitch; demonstrate skills in playing, strumming, and picking patterns; demonstrate ability to play with music and "by ear"; demonstrate skills necessary for basic melody picking. (0-3) 1

MUS 1304 Children's Music I: Upon completion of this course, students should be able to plan a music program for young children (ages infant to 10 years); display working knowledge of fundamentals of music; play autoharp, rhythm band, and Orff instruments; develop a resource file of methods and materials. (3-0) 3

***MUS 1305 Children's Music II:** A continuation of MUS 1304. In addition, students should become familiar with children's song literature, recordings, and basic trends in music education. Each student will be responsibile for making observations of various music programs in the community.
*Prerequisite; MUS 1304. (3-0) 3

MUS 1310 Introduction to Music Theory: A beginning or refresher course for students with little or no keyboard background, this course should prepare students for Music Theory I. Included are the fundamentals of music theory, notation, major and minor scales, intervals, and basic chord structure. Upon completion of this course, students should demonstrate a better understanding of the basic principles and application of music theory. (3-0) 3

MUS 1314 Music Appreciation I: Upon completion of this course, students should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology, form, and history. This perspective should enable each student to be an informed listener. (3-0) 3

MUS 1315 Music Appreciation II: Upon completion of this course, students should have developed skills in basic listening and understanding of music from the romantic and classical periods. (3-0) 3

MUS 1316 Music Appreciation III: Upon completion of this course, students should have developed skills in basic listening and understanding of music from the baroque and contemporary periods. (3-0) 3

MUS 1320 Music for Dancers I: Upon completion of this course, students should have developed skills in basic listening and understanding of music from the romantic and classical periods. (3-0) 3

MUS 1321 Music for Dancers II: Upon completion of this course, students should have developed skills in basic listening and understanding of music from the baroque and contemporary periods. (3-0) 3

MUS 1324 Recording Studio Techniques I: Students will be introduced to the recordiing studio from an artistic and operational point of view, the operation and function of audio consoles, microphones, multi-track recorders, echo chambers, and their relationship to the musician, sound engineer, and producer. (3-0) 3

***MUS 1325 Recording Studio Techniques II:** This course is a continuation of MUS 1324 with observation of multi-track recording and mix-down, mike placement and patch bay functions. Students participate as producers, musicians, singers, and back-up voices while the instructor directs their use of studio equipment.
*Prerequisite: MUS 1324. (0-6) 3

***MUS 1326 Recording Studio Techniques III:** This is the last of a series of three courses in Recording Studio Techniques. The course is predominantly a recording studio workshop whereby the student is given the opportunity to create and produce music, operate the console and tape recorders, and exhibit creativity in phases that hold the most interest.
*Prerequisite: MUS 1325. (0-6) 3

MUS 1327 Recording Studio Techniques IV: (Computers and Synthesizers) Upon completion of this course, students should be able to trace the history, development, and use of computer synthesis; demonstrate working knowledge of the physics of sound and its relationship to computer-based synthesis; utilize original sounds to record multi-track sequences; use software to transcribe and print musical scores. (3-0) 3

***MUS 1334 Music Manuscript I: Autography and Preparation:** This coures is designed to teach serious students fundamental skills in mucic calligraphy including notational techniques, technical vocabulary, and editing procedures by which music is prepared for performance and graphic reproduction by autography.
*Prerequisite: Basic music literacy—approved by department head. (2-2) 3

***MUS 1335 Music Manuscript II:** This course should enlarge and develop the skills which students have acquired in MUS 1334, with the addition of

further techniques and specific problems encountered by the copyist.
*Prerequisite: MUS 1334. (2-2) 3

MUS 1350 History of Rock and Roll: Upon successful completion of this course, students should be able to correctly identify specific styles and/or eras, as well as specific artists and to explain the importance of the contributions of various performers, producers, and disc jockeys. Students should also be able to describe the historical, social, and commercial forces which influenced the various eras and their influences upon American Culture. (3-0) 3

***MUS 1404 Music Theory I:** This is an integrated course in which attention is given to harmony, sight singing, dictation, and keyboard. The harmony deals with forming and recognizing all types of triads and the five most commonly used seventh chords with their inversions in both major and minor tonality.
*Prerequisite: MUS 1310 or departmental consent. (3-2) 4

***MUS 1405 Music Theory II:** This course is a continuation of MUS 1404. Emphasis is placed on part-writing in three, four, five voices using root position, first and second inversion triads, on analysis, and on more advanced work in sight-singing, dictation, and keyboard.
*Prerequisite: MUS 1404. (3-2) 4

***MUS 1406 Music Theory III:** This course is a continuation of MUS 1405. Harmony study includes consideration of non-chord tones and part-writing using all diatonic seventh chords. More advanced work is done on sight-singing, dictation, and keyboard.
*Prerequisite: MUS 1405. (3-2) 4

MUS 2000 Seminar in Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable.
Contact: TBA; credit 1

MUS 2100 Seminar in Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable.
Contact: TBA; credit 1

MUS 2154 Advanced Class Piano I: Upon completion of this course, students should be able to harmonize simple tunes using secondary dominants and play a minimum number of technical studies and selected pieces of piano literature. (0-3) 1

***MUS 2155 Advanced Class Piano II:** This is a continuation of MUS 2154. This course emphasizes technical development and mastery of music from several historical periods. Students should be able to play three or more etudes and pieces studied by the entire class, and perform one or more pieces selected to improve or capitalize on individual pianistic ability. (0-3) 1

***MUS 2156 Advanced Class Piano III:** This is a continuation of MUS 2155. Technical and stylistic problems are dealt with both individually and collectively. Upon completion of this course, students should be able to perform one movement of a classical sonata, a baroque dance, and a romantic or contemporary work, or the equivalent. (0-3) 1

MUS 2158 Piano Ensemble: Designed for students having completed six or more quarters of piano, this class is an introductory study of piano literature requiring two or more persons performing on one or more pianos. Emphasis is upon ensemble performance, repertoire, sight reading, and continued technique building. May be taken six times for credit. (0-3) 1

***MUS 2169 Jazz Guitar:** Upon completion of this course, students should be able to harmonize a standard tune, play C major scale in 12 positions and demonstrate basic understanding of chord/scale relationships through use of chord shapes.
*Prerequisite: Knowledge of 1st position C, A, G, E, D chords, barre chords, and major scale. (0-3) 1

MUS 2200 Seminar in Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable.
Contact: TBA; credit 2

MUS 2201 Business of Music: Upon completion of this course, students should be able to demonstrate, both orally and in writing, a basic understanding of Copyright Law, arrangements and abridgements of music, recording and songwriting contracts, agents and managers, performing rights organizations, and the musician's union. (2-0) 2

MUS 2202 Songwriting: Upon completion of this course, students should be able to write melodies and themes to given texts and original texts. (2-0) 2

***MUS 2204 Special Problems in Music:** This is an advanced problems course in which the student will select a topic for independent study involving laboratory and library work.
*Prerequisite: approval of department head. (1-3) 2

MUS 2257 Jazz Piano I: Upon completion of this course, students should be able to construct jazz chords from written chord symbols on the keyboard, write these chords on manuscript paper, and be able to take a standard popular tune and reharmonize it according to certain basic rules. (1-3) 2

***MUS 2258 Jazz Piano II:** Upon completion of this course, students should be able to reharmonize standard public domain tunes, create introductions, endings, modulations reflecting the state of the art.
*Prerequisite: MUS 2257. (1-3) 2

MUS 2300 Seminar in Music: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable.
Contact: TBA; credit 3

***MUS 2404 History and Literature of Music I:** This is a study of music from ancient times through the Renaissance. Upon completing this course, students should be able to trace the development of music—its styles and forms—from ancient times through the Middle Ages and the Renaissance to 1600. Students should know the major composers and should be able to identify some specific works of music and/or forms.
*Prerequisite: The ability to read music. (3-2) 4

***MUS 2405 History and Literature of Music II:** This is a study of music of the baroque and classical periods up to Beethoven. Upon completing this course, students should be able to describe the more important characteristics and forms, vocal and instrumental, of each period as represented especially in the works of Monteverdi, Corelli, Vivaldi, Bach, Handel, Haydn, Mozart, and should be able to identify some specific works.
*Prerequisite: The ability to read music. (3-2) 4

***MUS 2406 History and Literature of Music III:** This is a study of the romantic period, the music of Beethoven, and proceeding through the Twentieth Century. Upon completion of this course, students should be able to trace the major musical developments through the Nineteenth and Twentieth Centuries with respect to melody, rhythm, harmony, form, instrumentation. Students should be acquainted with a variety of music by the major romantic and contemporary composers, and be able to describe and distinguish style characteristics of a number of composers.
*Prerequisite: The ability to read music. (3-2) 4

***MUS 2407 Advanced Music Theory I:** This is a continuation of MUS 1406. Chromatic harmony is dealt with by way of secondary dominants and modulation. Phrases and periods are studied and work is continued in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to write a piece which modulates to another key and to analyze the phrase structure.
*Prerequisite: MUS 1406. (3-2) 4

***MUS 2408 Advanced Music Theory II:** This is a continuation of MUS 2407. Chromatic harmony is studied further by way of diminished seventh chords. Two and three part forms are discussed as well as advanced work in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to harmonize a modulating melody in baroque or classical style and analyze the form of a simple work from those periods.
*Prerequisite: MUS 2407. (3-2) 4

***MUS 2409 Advanced Music Theory III:** This is a continuation of MUS 2408. Chromatic harmony is dealt with in ninth and altered chords, modulation to distant keys, and Twentieth Century styles. Overall form is studied and work is continued in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to analyze harmonically and melodically works in traditional style and to write a piece incorporating the above in Twentieth Century style.
*Prerequisite: MUS 2408. (3-2) 4

Non-Credit Courses - see Corporate/Continuing Education section

Nursing, Associate Degree

***NUR 3216 Physical Assessment:** Upon completion of this course, students should be able to obtain a basic health history; assess the major body systems physically; recognize deviations from normal assessment findings; utilize physical assessment findings in making nursing judgments.
*Prerequisite: NUR 3805 or consent of instructor; Corequisite: NUR 3904. (2-0-0) 2

***NUR 3305 Nutrition for Nurses:** Upon completion of this course, students should be able to identify the basic nutrients and basic nutritional needs of all age groups; describe the composition of common hospital diets; recognize the need for and interpret modified diets; demonstrate awareness of the role of the nurse in relation to the dietary needs of patients.
*Corequisite: NUR 3704 or consent of instructor.
(3-0-0) 3

***NUR 3704 Fundamentals of Nursing I:** Upon completion of this course, students should be able to formulate a working definition of nursing practice for the Associate Degree Nurse; value legal and ethical responsibilities of the nurse; develop a basic working knowledge of the nursing process; illustrate the relatedness of the biological, psychological, sociological, and spiritual needs of the individual patient using Maslow's human need categories; distinguish between social and therapeutic communication; analyze the specific developmental tasks and related implications for nursing within each of Erikson's eight stages of development; examine changes that occur in the aging process; explain the nurse's responsibilities in administering therapeutic agents; explore selected concepts related to health and illness; adhere to practices which enhance patient welfare; demonstrate competency in performing selected standardized skills; transfer knowledge gained in the classroom to clinical practice; develop an awareness of own learning needs.
*Prerequisite: Admission to program; Corequisite: NUR 3305, BIO 1504, MAT 1504. (3-4-6) 7

***NUR 3805 Fundamentals of Nursing II:** Upon completion of this course, students should be able to explore selected principles and practices of nursing care for patients at various points along the health-illness continuum; formulate a working knowledge of selected biophysical concepts related to health and illness; examine the process of effecting change; develop selected interpersonal, technical, and intellectual skills necessary for applying the nursing process; demonstrate competency in performing selected standardized skills; transfer knowledge gained in the classroom to clinical practice; develop an awareness of own learning needs.
*Prerequisite: NUR 3305, NUR 3704, BIO 1504, MAT 1504; Corequisite: BIO 1505, PSY 2504. (3-4-9) 8

***NUR 3904 Care of the Adult Patient I:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide safe nursing care; demonstrate responsible professional behavior; apply biophysical concepts related to health and illness; utilize the nursing process to provide care for patients with disorders in acid-base balance, cellular function and proliferation, musculoskeletal and locomotion function, cardiovascular and hematologic function, and metabolic and endocrine function; recognize legal and ethical implications for nursing; respond with appropriate attitude therapy to patient's behavior; demonstrate assertiveness in communicating with instructors, peers, and members of the health care team; administer oral, parenteral, and/or other medications; perform standardized skills.
*Prerequisite: NUR 3805, BIO 1505, PSY 2504; Corequisite: BIO 1503, NUR 3216. (3-4-12) 9

***NUR 3905 Care of the Adult Patient II:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide safe nursing care; explore selected principles and practices of nursing care for patients at various points along the health-illness continuum; discuss deviations from normal anatomy and physiology and the resulting clinical manifestations of selected adult health problems; develop selected interpersonal, technical, and intellectual skills necessary for applying the nursing process; analyze the relationship between Erikson's last three stages of development and the health care needs of selected patients; explain the importance of moral, ethical, and legal values in providing nursing care; explore the role of the nurse as a facilitator of self-care and an active member of the health care team; transfer knowledge gained in the classroom to clinical practice; actively pursue experiences which will enhance own learning needs; and apply the nursing process to care for patients with disorders of the imunologic system, connective tissue, gastrointestinal system, respiratory system, and reproductive system.
*Prerequisite: NUR 3904, NUR 3216, BIO 1503. (3-4-12) 9

***NUR 4304 Nursing Perspectives:** Upon completion of this course, students should be able to analyze strategies for career success; develop personal career goals; identify and discuss current issues in nursing; relate personal, legal, professional, and ethical responsibilities to the practice of nursing; identify the roles and responsibilities of the Associate Degree Nurse upon graduation. These perspectives guide students toward their goal of employment and/or sequential education after graduation.
*Prerequisite: NUR 3905. (3-0-0) 3

***NUR 4390 Individual Study:** This offering is made to provide students the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources of the entire institution. Each student will work under the supervision of a sponsoring staff member.
*Prerequisite: Approval of sponsor and department head. (3-0) 3

***NUR 4505 Nursing Practicum—Advanced Care:** Upon completion of this practicum, students should be able to utilize the nursing process in providing individualized care for patients with selected health problems; provide total nursing care for assigned patients in an acute care setting; apply theoretical concepts in the clinical setting; employ effective interpersonal skills; demonstrate an ability to communicate

verbally and in writing in a relevant and concise manner; perform selected standardized skills; administer medications to assigned patients; initiate patient teaching according to specfic learning needs of the patient; manage care for a small group of patients; demonstrate accountability when working with co-workers and patients; employ self-direction in meeting learning goals.
*Prerequisite: NUR 4614, NUR 4615, NUR 4915; Corequisite: NUR 4606, NUR 4304. (0-0-15) 5

***NUR 4606 Advanced Care of the Adult Patient:** Upon completion of this course, students should be able to discuss deviations from normal anatomy and physiology and the resulting clinical manifestations of selected adult health problems and emergencies; explore the nurse's role in the management of patients with selected health problems and emergencies; examine the responsibilities of a nurse manager; develop the intellectual, technical, and interpersonal skills necessary for applying the nursing process to selected nursing problems; explore the interrelatedness of biological, psychological, sociological, cultural, and spiritual needs of the individual patient as described by Maslow; explain how knowledge of Erikson's last three stages of development can be incorporated into patient care; integrate moral, ethical, and legal values into nursing practice; appreciate the psychological needs of hospitalized patients at various points along the health-illness continuum; develop a commitment to continued learning in the medical-surgical content presented in the course.
*Prerequisite: NUR 4614, NUR 4615, NUR 4915; Corequisite: NUR 4505, NUR 4304. (5-2-0) 6

***NUR 4614 Maternal-Newborn Nursing:** Upon completion of this course, students should be able to synthesize knowledge of fundamental nursing principles and practices to provide quality nursing care to the childbearing family; differentiate the normal from the abnormal biopsychosocial processes in the childbearing patient and newborn; integrate knowledge of individual and family development for the application of a family-centered approach; apply the nursing process to provide comprehensive, quality nursing care for the normal and complicated childbearing patient, newborn, and family; analyze the legal, ethical, and moral atmosphere of contemporary maternity nursing. Clinical experiences will coincide with classroom theory.
*Prerequisite: NUR 3905. (3-2-6) 6

***NUR 4615 Psychiatric Nursing:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide safe nursing care for patients with altered behavior; develop self-awareness of own needs and the needs of persons experiencing stress; analyze the moral, legal, and psychiatric implications for patients in the mental health system; identify preventive measures and treatment modalities of the health team on behalf of persons with altered behavior; examine physiological and psychosocial factors which contribute to the development of altered behavior in adults; apply knowledge of human sexulaity to evaluate sexual role conflicts; utilize the nursing process in providing care for persons with altered behavior based on Erikson's developmental stages and Maslow's Hierarchy of Needs; utilize principles of interpersonal relationships to establish therapeutic communications with persons experiencing stress; examine the role of the nurse and scope of community mental helath agencies in promoting mental health and supportive measures for persons with altered behavior.
*Prerequisite: NUR 3905, PSY 2514. (3-2-6) 6

***NUR 4915 Nursing of Children:** Upon completion of this course, students should be able to assess, plan, implement, and evaluate nursing care for children (infancy through adolescence) with common health problems, such as hereditary disorders, congenital anomalies, infectious diseases, accidental injuries, oncological disorders, endocrine disorders, musculoskeletal abnormalities, respiratory disorders, and cardiovascular disorders; recognize both normal and abnormal growth and development and implement care to meet the child's physical and psychosocial needs; provide health care maintenance teaching for the pediatric patient and family.
*Prerequisite: NUR 3905. (3-2-15) 9

Nursing, Practical

***NUP 5204 Nursing Practicum—Basic Clinical Skills:** Upon completion of this practicum, students should be able to perform selected standardized skills for assigned patients; provide a safe, therapeutic, and aesthetic environment; utilize the nursing process to meet basic health needs of hospitalized adult patients; record and report appropriate patient information; establish effective communication skills and interpersonal relationships; provide care for 1-2 patients in the clinical area; apply basic biopsychosocial principles and nursing concepts to patient care; utilize legal and ethical principles as a basis for nursing actions.
*Prerequisite: Admission to program; Corequisite: NUP 5300, NUP 5804, BIO 3301, HSA 5200. (0-0-6) 2

***NUP 5300 Basic Principles of Drug Administration:** Upon completion of this course, students should be able to discuss state and federal laws regulating the use of drugs; demonstrate competency in computing drug dosage utilizing selected systems of measurements; classify drugs according to therapeutic purposes; identify drug sources; discuss the various common drug forms; describe the nursing responsibilities associated with drug administration; prepare drug cards utilizing appropriate information and resources; prepare and administer oral and parenteral medications.
*Prerequisite: Admission to program or consent of instructor; Corequisite: NUP 5804, NUP 5204. (3-0-0) 3

***NUP 5302 Nursing Practicum III:** Upon completion of this practicum, students should be able to transfer knowledge learned from related courses to patient care activities; utilize the nursing process as a basis for providing care for children from infancy through adolescence; perform selected standardized skills; accurately assess and document nursing actions; provide a safe and therapeutic environment; establish effective communication and interpersonal relationships; administer medications (except I.V.) to pediatric patients; provide care for 1-2 pediatric patients in the clinical area; utilize ethical and legal principles as a basis for nursing action; reinforce basic patient teaching according to specific learning needs.
*Prerequisite: NUP 5705, NUP 5503; Corequisite: NUP 5406. (0-0-9) 3

***NUP 5303 Nursing Practicum IV:** Upon completion of this practicum, students should be able to apply knowledge and adapt skills learned in previous nursing and related courses to patient care management; communicate and interact effectively with the childbearing family; provide a safe and therapeutic environment; incorporate the concept of family centered maternity/newborn care into the management of the maternity patient during all phases of the maternity cycle; integrate biopsychosocial concepts into the management of maternity patient care; utilize the nursing process, within the legal role of the practical nurse, as a basis for providing care for the childbearing family during the maternity cycle; recognize diviations in the normal maternity cycle and implement nursing interventions as directed; assist with patient-teaching during all phases of the maternity cycle; develop skills and techniques required in the nursing management of mothers and newborn infants.
*Prerequisite: NUP 5705, NUP 5602; Corequisite: NUP 5407. (0-0-9) 3

***NUP 5304 Nursing Seminar:** Upon completion of this course, students should be able to trace the historical development of nursing; discuss trends and issues in nursing; recognize how the law and ethical standards influence the practice of nurses and nursing; discuss the roles and responsibilities of the licensed practical nurse; explore career options; discuss purpose and functions of selected nursing organizations; recognize the need for continuing education to improve competency in nursing knowledge and practice.
*Prerequisite: NUP 5705, NUP 5602, or consent of instructor. (3-0-0) 3

***NUP 5390 Individual Study:** This offering is made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member.
*Prerequisite: Approval of the sponsor and department head. (3-0-0) 3

***NUP 5406 Care of Infants and Children:** Upon completion of this course, students should be able to discuss biopsychosocial principles and nursing concepts associated with common medical and surgical conditions of children from infancy through adolescence; recall anatomical differences between the child and adult; identify stages of normal growth and development of children; compare the needs of the well child and the sick child; examine the nursing management for pediatric patients with selected health problems; explore the therapeutic communication techniques appropriate in working with child/parent; discuss principles related to selected standardized skills; transfer knowledge learned from previous nursing and related courses.
*Prerequisite: NUP 5705, NUP 5503; Corequisite: NUP 5302. (3-2-0) 4

***NUP 5407 Care of Mothers and Newborn Infants:** Upon completion of this course, students should be able to discuss the concept of family centered maternity/newborn care; describe biopsychosocial principles and nursing concepts associated with the maternity cycle; describe nursing management of the maternity patient during the antepartal, intrapartal, and postpartal periods; describe nursing management of the normal newborn and the newborn with diseases and/or abnormalities; identify and describe the management of common disorders complicating the maternity cycle; identify obvious deviations from the normal maternity cycle; describe special nutritional requirements during the maternity cycle; discuss pharmacological aspects related to the maternity cycle; explain the importance for the development of the patent-infant attachment process throughout the maternity cycle; discuss legal and ethical issues associated with maternity care; assist with patient-teaching throughout the maternity cycle.

*Prerequisite: NUP 5705, NUP 5503; Corequisite: NUP 5303. (3-2-0) 4

***NUP 5502 Nursing Practicum I:** Upon completion of this practicum, students should be able to perform selected standardized skills; provide a safe, therapeutic, and aesthetic environment; utilize the nursing process as a basis for providing care for adult patients experiencing frequently occurring common health needs related to specific medical-surgical conditions; document nursing actions and report appropriate patient information; establish effective communication skills and interpersonal relationships; provide care for 1-2 patients in the clinical area; apply basic psychosocial principles and nursing concepts to patient care; reinforce patient-teaching; utilize ethical and legal principles as a basis for nursing actions.

*Prerequisite: NUP 5300, NUP 5804, NUP 5204, BIO 3301, HSA 5200; Corequisite: NUP 5703, NUR 3305, BIO 3302. (0-0-15) 5

***NUP 5503 Nursing Practicum II:** Upon completion of this practicum, students should be able to perform selected standardized skills; administer medications to assigned patients; employ physical and psychological safety measures when implementing care; utilize the nursing process as a basis for providing care for adult patients experiencing frequently occurring common health needs related to specific medical-surgical conditions; record and report appropriate patient care information; establish effective communication skills and interpersonal relationships; provide care for 2-3 adult patients in the clinical area; apply basic psychosocial principles and nursing concepts to patient care; reinforce patient teaching according to specific learning needs; utilize ethical and legal principles as a basis for nursing actions; demonstrate increased ability in managing patient care assignments for the adult patient having more complex medical-surgical conditions that result in alterations in body homeostatis.

*Prerequisite: NUP 5703, NUP 5502, NUR 3305, BIO 3302; Corequisite: NUP 5705. (0-0-15) 5

***NUP 5703 Care of Patients with Medical/ Surgical Conditions I:** Upon completion of this course, students should be able to discuss disease producing factors and the responses they provoke; examine the special problems and needs of the geriatric patient and the patient undergoing surgery; discuss the nursing management of adult patients with the following types of disorders: body fluids and motion, respiratory, cardiovascular, musculoskeletal, and cellular proliferation; explore biopsychosocial principles and nursing concepts associated with frequently occuring common medical-surgical condition; emphasize pharmacological, nutritional and patient-teaching principles as vital aspects of the nursing process; describe the nursing responsibilities for specific diagnostic and therapeutic measures; explain the principles of selected standardized skills; recognize ways in which an individual responds to illness; discuss ethical and legal issues related to nursing management of adult patients.

*Prerequisite: NUP 5804, NUP 5204, NUP 5300, BIO 3301, HSA 5200; Corequisite: NUP 5502, NUR 3305, BIO 3302. (5-4-0)) 7

***NUP 5705 Care of Patients with Medical/ Surgical Conditions II:** Upon completion of this course, students should be able to discuss the nursing management of adult patients with the following disorders: skin, urinary, gastrointestinal, neurologic, endocrine, eye, ear, and throat, male and female reproduction; apply biopsychosocial principles and nursing concepts associated with common medical and surgical conditions; incorporate patient teaching, pharmacology, nutrition, and rehabilitative care into patient care management; discuss patient preparation for specific diagnostic and treatment measures; relate principles of selected standardized skills; demonstrate an awareness of the experience of illness from the patient's perspective; recognize the importance of providing for and maintaining support systems for both patient and family; incorporate knowledge of body image, self-concept and self-esteem into the nursing process; examine legal and ethical considerations related to patient care; transfer knowledge learned from previous nursing and related courses to patient care management.

*Prerequisite: NUP 5703, NUP 5502, NUR 3305, BIO 3302; Corequisite: NUP 5503. (6-2-0) 7

***NUP 5804 Introduction to Patient Care:** Upon completion of this course, students should be able to define nursing and discuss the role of the nurse; describe the role and the responsibilities of the practical nursing student; describe biopsychosocial principles and nursing concepts related to basic health care; identify the steps in the nursing process; develop basic physical assessment skills; apply theories of Maslow's Hierarchy of Human Needs and Erikson's Stages of the Lifecycle in meeting patient care needs; recognize the legal and ethical basis of nursing; develop a helping nurse patient relationship; identify guidelines for reporting and documenting appropriate patient information; recognize safe parameters of nursing practice; develop an awareness of the ways in which an individual responds to illness.

*Prerequisite: Admission to program; Corequisite: NUP 5204, NUP 5300, BIO 3301, HSA 5200. (6-4-0) 8

Peer Tutoring—Advancement Studies

PTL 9000 Peer Tutoring Lab: This lab experience is designed to provide an opportunity for students to receive tutoring help from other students in their course work, plus additional instruction in study skills. The goal is to increase efficiency and effectiveness in academic endeavors of all persons involved. Tutoring is available in the majority of course areas. (0-3) 0

Paralegal

LEX 3300 Case Analysis and Reasoning: This is the first course in a series of courses that studies the fundamentals of legal research, analysis, and writing. Upon completion of this course, students should be able to read and interpret court decisions, statutes, and constitutions; write and use a composite brief; synthesize opinions; analogize opinions and fact situations. (3-0) 3

LEX 3310 North Carolina Legal System: This course examines the roles of state and federal judiciary in North Carolina through use of the United States and North Carolina Constitutions and the various applicable statutes. Upon completion of this course, students should be able to describe and analyze the role of each court sitting in North Carolina. (3-0) 3

***LEX 3320 Evidence:** This course is an examination of the principal rules of evidence applicable in civil trials by jury at common law, their history, development, and modern application, together with statutes affecting the field. Upon completion of this course, students should be able to distinguish between direct and cross examination; explain the methods and limits of impeachment; utilize real and demonstrative evidence, prepare exhibits for introduction; identify proper introduction of opinion evidence; discuss the best evidence rule, presumptions, inferences, and burden of proof; recognize hearsay and its exceptions; explain the importance of saving the record for appeal.
*Prerequisite: LEX 3300 (3-0) 3

LEX 3306 Administrative Law: Upon completion of this course, students should be able to understand and explain agency practice and procedure at both the Federal and State level; prepare documents, comply with rules of evidence and appellate procedure at and beyond the agency level, and be prepared to participate in agency practice with minimal supervison. (3-0) 3

***LEX 3404 Legal Research:** This is a continuation of LEX 3300. Upon completion of this course, students should be able to do basic legal research by using legal publications such as *U.S.G.A., N.C.G.S., Ordinances, Reporters, Digests, Words And Phrases, Encyclopedias, A.L.R., Shepards, Looseleaf Services,* and *C.F.R.* and also in computerized research.
*Prerequisites: LEX 3300 and admission to program. (2-4) 4

***LEX 4323 Legal Writing:** This course is a continuation of LEX 3404 and is designed to train students to express their research and analysis of legal problems clearly and effectively. Upon completion of this course, students should be able to apply the principles of expository prose and the rhetoric of persuasion to the kind of writing required in writing legal memos and two trial briefs. Each student shall write successfully a closed legal memo and an open legal memo.
*Prerequisites: LEX 3404 and ENG 1505 or ENG 3405. (3-0) 3

***LEX 4290 Cooperative Work Experience:** Upon completion of this course, students should be able to identify the relationship between theoretical legal constructs and work skills required within the legal environment; successfully intergrate theories with practices; enhance present work skills by awareness of the intergration of contemporary theories, practices, and court cases with current practices; develop new skills through a carefully planned and coordinated effort of supervison between an institutional respresentative and each participant's respective employer.
*Prerequisite: COE 3100 and completion of twenty nine hours in the program and permission of program director. (0-20) 2

***LEX 4291 Cooperative Work Experience:** Upon completion of this course, students should be able to identify the relationship between theoretical legal constructs and work skills required within the legal environment; successfully integrate theories with practices; enhance present work skills by awareness of the intergration of contemporary theories, practices, and court cases with current practices; develop new skills through a carefully planned and coordinated cooperative effort of supervision between an institutional representative and each participant's respective employer.
*Prerequisite: LEX 4290. (0-20) 2

LEX 4300 Domestic Relations Law: A course which examines the various laws of North Carolina that affect the marriage and family relationships, such as statutory grounds for divorce, defenses to divorce actions, elements of separations by court order or by mutual consent, and custody of children. Upon completion of this course, students should be able to discuss the various applicable statutes; interview the client and potential witnesses; aid the attorney in the drafting of divorce, custody, and support pleadings, separation agreements, consent judgments, court orders, and documents for adoption. (3-0) 3

***LEX 4321 Tort Law:** A study of the fundamental principles of the law on Torts. Upon completion of this course, students should be able to recognize the more common intentional torts as negligence from various fact situations; explain the prima facie case for each; evaluate the defenses available to each.
*Prerequisite: LEX 3300. (3-0) 3

LEX 4322 Corporate Law: A study of the laws of North Carolina concerning partnerships and corporations. Upon completion of this course, students should be able to explain the basic concepts of corporations as compared to partnerships, joint ventures, and sole proprietorships. Students should be able to aid the attorney in interviewing clients, drafting articles of incorporation, by-laws, minutes, resolutions, stock certificates, partnership agreements, joint venture agreements, and the proper filing of corporate and partnership documents. (3-0) 3

***LEX 4332 Trial Preparation and Procedures:** An in-depth study of legal drafting and the rules of Civil Procedure. Students who complete this course should be able to aid the attorney in the drafting of the various pleading, motions, orders, interrogatories, and affidavits that are the ordinary components of civil actions. They should also be able to aid in the preparation of the file and exhibits for the trial.
*Prerequisite: LEX 3404, LEX 3320. (3-0) 3

LEX 4361 Interpreting Medical Reports: This is a course designed to acquaint students with the terminology, diagnosis and treatment of physical injuries most often seen in medical reports on personal injury cases. Upon completion of this course, students should be able to review and analyze the various medical reports sent to a law office on personal injury cases. (3-0) 3

LEX 4313 Collections and Bankruptcy: This course emphasizes a study of the laws and procedures of handling collections for clients and bankruptcy of clients, including study of the bankruptcy laws in effect as of October 1, 1979. Upon completion of this course, students should be able to develop and set up a collection system within a law office by aiding the attorney in drafting necessary form letters, complaints, liens, and notices of sale. Students should also be able to interview the client, investigate the situation, and complete the bankruptcy package of documents. (3-0) 3

***LEX 4420 Real Property Law and Title Abstracting:** This course examines the laws of real property, common types of real estate transactions, and conveyances. Upon completion of the course, students should be able to abstract a title, aid the attorney in the drafting of deeds, deeds of trust, mortgages, and other documents necessary to real property transactions and closing statements; aid the attorney in completion of loan packages. Preparation of an abstract of title is a requirement of the course.
*Prerequisite: RES 3601, LEX 3300 (3-2) 4

***LEX 4317 Wills, Trusts, and Probate:** This course emphasizes procedures concerning distribution of property by trusts, wills, and intestacy. Upon completion of this course, students should be able to interview clients, use a wills manual, and aid the attorney in drafting wills and trusts, as well as complete the documents necessary to administer an estate.
*Prerequisite: LEX 3404. (3-0) 3

LEX 4580 Legal Ethics: This course analyzes the ethics of lawyer and staff. Upon completion, students should be able to explain the N.C. Unauthorized Practice of Law Statutes and how they apply to paralegals; contrast and compare the ABA Code of Professional Responsibility, the N.C. Canon of Ethics, and codes of ethics of the National Federation of Paralegal Associations and the National Association of Legal Assistants; identify authority that can and cannot be delegated by the attorney; discuss what constitutes proper supervision. (2-0) 2

Pharmacy Technology

PHM 5204 Community Pharmacy: Upon completion of this course, students should be able to demonstrate a knowledge of procedures, operations, and theories relating to community and retail pharmacy; identify "over-the-counter" products; explain prescription processing, pricing, business-inventory management, patient services; describe special health aide. (2-0-0) 2

***PHM 5208 Hospital Practicum I:** Upon completion of this course, students should be able to discuss the duties of a Pharmacy Technician; describe the structural, functional, and interrelational aspects of the hospital pharmacy as a functional unit of a hospital; explain and demonstrate unit dose dispensing and record keeping.
*Prerequisite: PHM 5302. (0-0-6) 2

PHM 5301 Pharmacology I: Upon completion of this course, students should be able to identify drug nomenclature, dosage forms, administrative routes, and body responses in basic pharmacology; recognize and explain the action of drugs used in the treatment of cardiovascular, endocrine, and nervous systems. (3-0-0) 3

PHM 5302 Hospital Pharmacy I: Upon completion of this course, students should be able to describe the organization and services of hospital pharmacies; use various pharmacy references; relate pharmacy law and regulations to the dispensing of drugs; prepare admixtures and unit doses; procure medication; prepare compound packages; and label drugs. (2-2-0) 3

***PHM 5303 Hospital Pharmacy II:** This course completes the study of the technical procedures including preparation and dispensing of drugs under the supervision of a pharmacist. Upon completion of this course, students should be able to perform computerized dispensing, packaging and labeling, purchase and inventory control, and bulk and sterile compounding.
*Prerequisite: PHM 5302. (3-0-0) 3

***PHM 5306 Pharmacology II:** Upon completion of this course, students should be able to explain use of antimicrobial agents, onchogenics and antineoplastics, vitamins, minerals and nutritive agents; describe action of drugs used in the treatment of the gastrointestinal, respiratory, and genito-urinary systems.
*Prerequisite: PHM 5301. (2-0-0) 2

PHM 5404 Pharmacy Math: Upon completion of this course, students should be able to apply the metric, apothecary, and avoirdupois systems of weight and volume to the preparation of drugs; demonstrate knowledge of measured quantities, calculations, pharmaceutical abbreviations, and prescription and formulation format. (4-0-0) 4

***PHM 5406 Hospital Practicum III:** The objectives of this course are the same as for PHM 5505, Hospital Practicum II. Students will be assigned to another clinical site. Students have the option of completing both courses in one quarter.
*Prerequisite: PHM 5505. (0-0-12) 4

***PHM 5505 Hospital Practicum II:** This course is designed to give students "on-the-job" training. Upon completion of the course, students should be able to demonstrate with accuracy outpatient dispensing, inpatient dispensing, unit dose systems, IV admixture systems, bulk and sterile compounding, and purchasing and inventory control.
*Prerequisite: PHM 5203, PHM 5303. (1-0-12) 5

Philosophy

PHI 1500 Introduction to Philosophy: This course is an introduction to the basic problems of humankind and some philosophical solutions which emphasize those systems of thought which deal with these problems. Upon completion of this course, students should be able to construct guidelines for decision making based on knowledge of the wisdom of past thinkers. (5-0) 5

PHI 2500 Logic: This course is an intensive study of the methodology of reasoning, including principles of induction and deduction, using symbolic logic. Upon completion of this course, students should be able to recognize the inconsistency in any given line of reasoning, and construct a persuasive argument based on reliable information regarding the subject matter. (5-0) 5

Photography—

(See ART)

Physical Therapist Assistant

***PTH 3525 Physical Therapy Procedures II:** During carefully planned and closely supervised clinical experiences, students who complete this course should demonstrate acceptable competence in utilizing good body mechanics while performing safe patient transfer and treatment; applying procedures learned to date to include: hotpacks alone or combined with other modalities, massage techniques, and low and high frequency therapeutic currents; recognizing patient physiological/psychological responses to treatment as appropriate or inappropriate; expressing a basic understanding of: clinical department operational procedures, specific patient diagnoses being treated, and the interrelationships of health facility departments and personnel.
*Prerequisites: PTH 3624, PTH 3615, BIO 1505.
(3-0-6) 5

***PTH 3526 Clinical Problems in Physical Therapy:** Upon completion of this course, students should be able to describe the basic pathophysiologic mechanisms contributing to disease and major disease processes; identify etiology, signs, symptoms, and com-

plications of disease processes encountered by physical therapy services; recognize and describe the clinical picture, treatment program options, and the anticipated prognoses for pathological, orthopaedic, and neurological conditions treated by physical therapy measures; utilize case histories in a problem-solving approach for determining fundamental physical therapy treatment programs; recognize medications commonly utilized for the clinical/pathological conditions studied throughout the course.
*Prerequisite: PTH 3615, BIO 1504, BIO 1505, MED 3304; Corequisite: PTH 3525. (5-0-0) 5

***PTH 3604 Introduction to Physical Therapy:** Upon completion of this course, students should be able to describe the development, preparation and roles of physical therapy personnel and services; demonstrate awareness of physical therapy services appropriate to various clinical settings; identify clinical conditions commonly treated by physical therapy services; relate the variety and interrelationships of medical and paramedical disciplines in meeting patient needs; demonstrate basic aseptic techniques, safe transfer techniques using proper body mechanics, proper bed positioning of selected clinical conditions, and the ability to obtain the vital signs of temperature, pulse, respiration, and blood pressure.
*Prerequisite: acceptance into the program. (3-6-0) 6

***PTH 3615 Applied Anatomy:** Upon completion of this course, students should be able to describe and demonstrate major joint actions; identify the major muscles of these actions, their bony attachments and nerves; offer comparisons of expected strengths of joint actions; identify physiological components of the central and peripheral nervous systems; identify the major nerve plexuses as to spinal cord origins and muscular distributions.
*Prerequisites: BIO 1504, PTH 3604. (3-6-0) 6

***PTH 3624 Physical Therapy Procedures I:** Upon completion of this course, students should be able to demonstrate orally and in writing a basic knowledge of the different methods of heat transmission to the body, basic physics, and terminology of low and high frequency currents utilized in physical therapy, the physical and physiological effects of heat (hot packs, low and high frequency currents), and the rationale of expected physical/physiological effects and indications/contraindications of the modalities being studied; demonstrate acceptable competence in the skill development laboratory through use of good body mechanics, performance of four therapeutic massage techniques, application of hot packs alone and combined with other modalities, and application of low and high frequency therapeutic currents.
*Prerequisites: PTH 3604, BIO 1504. (3-6-0) 6

***PTH 3714 Therapeutic Exercise:** Upon completion of this course, students should be able to identify the structural unit and recognize the physiological activities of muscle tissue; relate neuromuscular function or dysfunction to a number of clinical conditions; recognize the significance of joint range measurement and muscle strength evaluations for exercise programs; utilize problem solving methods in determining appropriate exercise techniques or transfer, and ambulation activities; demonstrate the use of good body mechanics and proper patient safety measures in a variety of exercise, transfer, and ambulation activities, and the correct application and use of appliances and equipment for patient exercise, transfer, and ambulation procedures.
*Prerequisites: PTH 3624, PTH 3615. (3-8-0) 7

***PTH 4324 Psychology of Adjustment:** Upon completion of this course, students should be able to identify a variety of personality traits; recognize the value of utilizing various coping mechanisms by both the sick and the well; participate effectively in interpersonal relations as related to various stress situations; demonstrate recognition of the need for behavioral adjustments by both the health worker and the patient; relate the experience of another in adjustment to a disability.
*Prerequisite: PTH 3525. (3-0-0) 3

***PTH 4334 Community Health and Welfare:** Upon completion of this course, students should be able to describe a community of interest for problem solving; define and offer appropriate examples of three categories of service agencies; list and explain four phases of health care; offer valid examples of governmental influences on the health and welfare system; identify at least five referral resources usually available to meet patient needs; describe in detail the organization of and services provided by one community agency.
*Prerequisite: PTH 4627. (3-0-0) 3

***PTH 4344 Seminar in Physical Therapy Procedures:** Upon completion of this course, students, in consultation with program faculty, should be able to locate and utilize appropriate reference material; carry out in-depth, comprehensive research of a specific topic relative to the physical therapy field; interview experts in the chosen topic and summarize the interviews in written form; develop and organize a seminar project notebook which presents and summar-

izes the relevant research; identify both positive and negative learning experiences encountered in clinical assignments.
*Prerequisite: PTH 4728; Corequisite: PTH 4604, PTH 4605. (3-0-0) 3

PTH 4604 Clinical Education I: During systematically planned and supervised clinical learning experiences in a local health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of departmental procedures and practices; develop and maintain positive rapport with patient and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; utilize available time for learning and self-improvement.
*Prerequisite: PTH 4728; Corequisite: PTH 4605, PTH 4344. (0-0-18) 6

PTH 4605 Clinical Education II: A continuation of Clinical Education I, with identical objectives in a clinical department away from Charlotte selected by the students from available facilities affiliating with the program.
*Prerequisite: PTH 4728; Corequisites: PTH 4344, PTH 4604. (0-0-18) 6

PTH 4627 Physical Therapy Procedures III: Upon completion of this course, students should be able to identify and explain the physiological effects, indications and contraindications of the use of cold, paraffin, and hydrotherapy procedures; demonstrate acceptable application of these same treatment procedures; perform carefully planned and supervised patient care utilizing cold, paraffin, and hydrotherapy measures, as well as demonstrating increased competence in performance of all previously learned skills; show evidence of effective interpersonal relations and ethical conduct in the patient care setting.
*Prerequisites: PTH 3525, PTH 3714. (3-0-9) 6

PTH 4728 Physical Therapy Procedures IV: Upon completion of this course, students should be able to demonstrate a knowledge of radiant heat, its physical and physiological effect, indications/contraindications; employ radiant heat measures of infrared and ultraviolet in an acceptable manner; demonstrate knowledge of, and competence in, applying all modalities and procedures learned in the program, and interrelate these measures with specific clinical conditions; give evidence of acceptable knowledge about neuromuscular structures and function; demonstrate effective patient and staff interpersonal relationships and, when performing supervised patient assignments, coordinate all learning experiences to date for safe, appropriate, and ethical patient care.
*Prerequisite: PTH 4627. (3-0-12) 7

Physics

PHY 1404 Physics I—Basic Mechanics: This is the first course in the introductory physics sequence designed to meet the needs and interests of students in technology programs and students working toward bachelor's degrees in areas other than engineering, mathematics, or physical science. Upon completion of this course, students should be able to demonstrate proficiency in the use of the International System of units and have an understanding of the basic principles of linear motion, force, equilibrium, friction, energy, power, and momentum. Their understanding will be demonstrated primarily by solving problems involving the fundamentals of these physical concepts.
*Prerequisite: MAT 1504, MAT 3507, high school equivalent, or departmental permission. (3-2) 4

PHY 1405 Physics II—Elastic and Thermal Properties of Matter: This is a continuation of PHY 1404 which includes the study of such topics as rotational dynamics, elastic models, fluid dynamics, simple harmonic motion, thermal properties of matter, gas laws, and heat transfer. During this course, students should master the terminology and the physical units used in these topics and be able to solve basic problems selected from these areas.
*Prerequisite: PHY 1404. (3-2) 4

PHY 1406 Physics III—Electricity and Magnetism: This is the third course in the introductory physics sequence. Topics included are static electricity, electric fields and potential, simple DC circuits, simple AC circuits, magnetism and electromagnetic induction. These topics are treated with both a qualitative and a problem solving approach.
*Prerequisite: PHY 1404. (3-2) 4

PHY 1407 Physics IV—Modern Physics: This is the last of the introductory physics sequence and is an overview of the most significant discoveries in physics which have radically changed our views of nature since the nineteenth century. Beginning with general wave phenomena, the course progresses through em waves, physical optics, atomic structure, and a cursory treatment of the basics of quantum theory, relativity, and nuclear process.
*Prerequisite: PHY 1404, PHY 1406 or equivalent, or departmental permission. (3-2) 4

PHY 1500 Introduction to Astronomy: This course introduces students to the historical development of astronomy, the basic tools and techniques of astronomy, and past and present cosmological models. Upon completion of this course, students should be able to use an astronomical coordinate system and a star map to locate a prominent astronomical feature; describe the relative locations, motions, and composition of the major components of the solar system; briefly describe major cosmological phenomena such as red shift, pulsars, super novae, etc. (4-2) 5

***PHY 2504 General Physics I—Mechanics:** This is the first of a three-course sequence designed primarily for students majoring in physical science, engineering, or mathematics. Upon completion of this course, students should be able to demonstrate an understanding of principles of kinematics, particle dynamics, energy and momentum, particularly through the solution of appropriate problems of a level requiring the use of calculus and vector analysis.
*Prerequisite: MAT 1524 or departmental consent. (4-2) 5

***PHY 2505 General Physics II—Fluid Mechanics, Heat and Waves:** This is a continuation of the General Physics I with emphasis on elastic properties of matter, fluid statics and dynamics, thermodynamics, kinetic theory, and wave mechanics. Calculus is used extensively.
*Prerequisite: PHY 2504. (4-2) 5

***PHY 2506 General Physics III—Electricity and Magnetism:** This is the third in the sequence of courses beginning with PHY 2504. Students completing this course should be able to solve rather rigorous problems in the areas of electrostatic fields, current electricity, and electromagnetic fields.
*Prerequisite PHY 2505 or departmental consent. (4-2) 5

***PHY 2507 General Physics IV—Optics and Modern Physics:** This is the fourth course in the General Physics sequence which is designed for students majoring in physical science, engineering, or mathematics. Upon completion of this course, students should be able to demonstrate conceptual understanding and the capability of solving problems involving electromagnetic waves, Maxwell's equations, geometric optics, optical spectra, relativity, quantum mechanics, and nuclear emissions.
*Prerequisite: PHY 2504, PHY 2506, or PHY 1404, PHY 1406 and strong math background. (4-2) 5

PHY 3414 Physics of Respiratory Therapy: Students completing this course should have an overview of basic principles related to properties of matter, energy, heat, gas laws and basic electricity, with particular emphasis on application to Respiratory Therapy. (3-2) 4

PHY 5304 Applied Physics I: This is an introductory course in physics and its application covering systems and measurement, and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electromagnetism. The production, transmission, distribution, measurement, and specific application of electrical energy also constitute major areas of study. Upon completion of this course, students will have demonstrated an acceptable level of understanding by passing a series of mastery quizzes designed to cover each of the topics listed. (2-2) 3

***PHY 5305 Applied Physics II:** This is a continuation of PHY 5304. Principles of force, motion, work, energy, power, and mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work is also covered. Student mastery testing is again employed. (2-2) 3

Piano Tuning and Repair

PTR 5200 Piano Service Seminar: Upon completion of this course, students should demonstrate both orally and in writing an awareness of current practices in piano and piano parts design and construction. A seminar will take place at least once per month to be conducted by invited representatives of particular piano manufacturers or will involve tours to manufacturing plants, conferences and conventions, and tuning demonstrations on pianos of various makes off-campus. (2-0) 2

PTR 5210 Piano Actions: Upon completion of this course, students should be able to identify various types of actions, and demonstrate an understanding of the construction and function of hammers, dampers, flanges, bushings, keys, and felts. (0-6) 2

PTR 5211 Vertical Regulation: Upon completion of this course, students should be able to make minor repairs and regulation of all parts as they interact with one another (dampers, pedals, hammers, action, and key depths). (1-3) 2

PTR 5212 Hammer Replacement: Upon completion of this course, students should be able to voice, reshape, adjust, or replace hammers. (1-3) 2

PTR 5213 Grand Regulation: Upon completion of this course, students should be able to make precise adjustments and minor repairs of Grand Piano Actions including repetition, sostenuto and damper systems, refelting and bedding of the key frame and leveling of the keys. (1-3) 2

PTR 5214 Restringing: Upon completion of this course, students should be able to measure, replace, splice, and evaluate tone quality and clean strings. (1-3) 2

PTR 5300 Piano Technology—The Instrument and Tools: Upon completion of this course, students should be able to identify the different types of pianos, the parts of the piano and their functions; identify tools and their correct usage; use correct terminology; discuss the history and development of the piano and its predecessors, the harpsichord and clavichord. (3-0) 3

PTR 5301 Piano Technology—The Technician: Upon completion of this course, students should demonstrate both orally and in writing the abiity to list necessary steps for becoming a Piano Technician; the ability to diagnose piano problems for the customer; the essential steps necessary for establishing and maintaining a satisfied clientele. (3-0) 3

PTR 5330 Tuning Practicum (Piano): Supervised field training. (0-9) 3

PTR 5607 Fundamentals of Tuning I: Upon completion of this course, students should be able to demonstrate the correct use of the tuning fork, the tuning hammer, and an understanding of the tuning of unisons and octaves. (2-12) 6

PTR 5608 Fundamentals of Tuning II: Upon completion of this course, students should be able to demonstrate improvement in tuning unisons and octaves; demonstrate the Faust procedure of equal temperament, using thirds and sixths, fourths and fifths, demonstrate greater competence in tuning extreme treble and bass. (2-12) 6

PTR 5709 Intermediate Tuning: Upon completion of this course, students should be able to demonstrate a working knowledge of the processes of tuning, i.e., alternative aural temperaments and introduction to progression of intervals, using tests to prove intervals. (3-12) 7

PTR 5710 Advanced Tuning: Upon completion of this course, students should be able to stabilize tuning pins, raise pitch, demonstrate a working knowledge of interval tests, and tune for general and specialized use; demonstrate the use of an electronic tuning aid. (3-12) 7

Political Science

POL 1502 American Politics: Students will analyze the three branches of American national government and the ways in which they interact with each other, and with political parties, interest groups, and the electorate in political decision-making. (5-0) 5

POL 1510 Comparative Politics: Students will compare and contrast decision-making in several Western and non-Western, industrial and less developed, democratic, and authoritarian political systems. (5-0) 5

POL 1511 International Relations: Students will identify and analyze patterns in relations among nations, and explain the effects on international relations of differing national perspectives, "power", international law, international organizations, the "balance of power", and the "balance of terror." (5-0) 5

POL 2500 State and Local Politics: Students will analyze political decision-making in the states and local areas, emphasizing in their analysis: changing relations between the federal government, states and cities; the decline of southern sectionalism and big city political machines, the rise of suburban areas, citizen action groups, and new forms of metropolitan government. (5-0) 5

POL 2501 Political Ideologies: Students will explain the functions of political ideology, and describe the beliefs and practice of communism, socialism, fascism, capitalism, and democracy in the politics and socio-economic structure of various nations. (5-0) 5

***POL 2104-2504 Special Topics in Political Science:** Students will examine particular topics of political interaction and decision-making in areas not covered in standard courses. Course objectives vary with the subject matter studied.
*Prerequisite: Consent of instructor and department head. (1 to 5 hrs. class/week—1 to 5 hrs. credit)

Postal Service Technology

PSM 3300 Postal Service History and Organization: Upon completion of the course, students should be able to trace the delivery of written communication and merchandise from earlier eras to the present; depict and compare the private, corporate, and governmental agencies which have been responsible for mail service; define the current postal organization as mandated by Public Law 91-375; trace and explain postal philosophies, policies, procedures, rules and regulations of the current organization; demonstrate an understanding of the history and organization of the Postal Inspection Service. (3-0) 3

PSM 3301 Postal Service Labor Management: This course presents an overview of laws and practices as related to Labor Management in the Postal Service. Upon completion of this course, students should be able to discuss the development of labor unions of Postal Service employees with emphasis on the National and Local agreements, the various bargaining units and associations in the U.S. Postal Service, the grievance procedures, the disciplinary action procedures, and the National Labor Relations Board. (3-0) 3

PSM 3304 Mail Processing I: Upon completion of this course, students should be able to explain and interpret the mail classifications and rates, service standards, postal terminology, the four functions of mail processing, distribution systems, mail processing objectives and responsibilities, the mail preparation operation, manual distribution, revenue protection, and the bulk mail centers. (3-0) 3

PSM 3305 Mail Processing II: Upon completion of this course, students should be able to explain and interpret postal mechanization, machine distribution, human resources management in mail processing, reporting systems and data analysis, operational planning, scheduling and staffing, budgeting, and functional coordination with customer services. (3-0) 3

PSM 3301 Postal Service (Support) Finance: Upon completion of this course, students should be able to explain how postal revenue is received and controlled, procedures of the Board of Governors and the Postal Rate Commission, and the Postmaster General's Annual Report, as well as budgeting, financial accounting and reporting, timekeeping, travel regulations, and Administrative Services. (3-0) 3

PSM 4420 Postal Employee Services: Upon completion of this course, students should be able to explain the functions of the Personnel Office in relation to the services it provides for postal employees, including policies and practices concerning selection, placement, training, promotion of employees, self-development training programs, EEO practices, insurance and retirement benefits, awards programs, salary schedules, and safety and health. (3-0) 3

PSM 3321 Postal Customer Services: This course is designed to provide students with an in-depth knowledge of all services provided for postal customers. Upon completion, students should be able to explain effective customer relations, retailing postal products, and non-postal services including professional window service operations and the duties of customer service representatives. (3-0) 3

PSM 3330 Postal Delivery and Collection: This course is designed to provide a functional knowledge of mail delivery and collection systems within the Postal Service through the use of two management training programs: "Method Improvement Plan/Standard Operating Procedures" and "Route Inspections and Evaluations." Upon completion, students should be able to state and explain the duties, responsibilities and skills required in the Carrier Crafts and the Management of Rural Delivery Service. (3-0) 3

PSM 4331 Postal Problem Analysis:Function Four Review: Upon completion of this course, students should be able to conduct a clerical staffing and scheduling audit. The review can be critical not only to meeting the aggressive budgets in LDC 4 but also in providing good, efficient service to the public. Students will be able to use the Postmaster Fact Sheet in conducting the reviews, to complete an allied Labor, Schedule, and figure productivity rates. (3-0) 3

PSM 4332 Postal Service Safety Training: Upon completion of this course, students will be able to identify principles of safety guarding of equipment and machines in the U.S. Postal Service; explain the principles of Job Safety Analysis; demonstrate knowledge of highlights of Occupational Safety and Health Act (OSHA); demonstrate a working knowledge of current practices and problems relating to health hazards pertinent to the U.S. Postal Service; complete all necessary recordkeeping and forms used by the U.S. Postal Service in documenting accidents. (3-0) 3

Psychology

PSY 1500 Psychology of Adjustment: Upon completion of this course, students will be able to identify various stress situations encountered in life and strategies useful in meeting these situations. Areas of adjustment which will be emphasized are self-concept, assertive and aggressive behavior, interpersonal relations, stress, and abnormal behavior. (5-0) 5

PSY 2500 Educational Psychology: Upon completion of this course, students should demonstrate knowledge of learning, motivation and development as these relate to classroom teaching. Students should also demonstrate a knowledge of testing, evaluation and assessment. (5-0) 5

PSY 2504 General Psychology: A course designed to introduce students to the discipline of psychology. Upon completion of this course, students should demonstrate knowledge of the basic concepts of psychology, the use of these concepts as employed by the major theorists, and the practical and therapeutic application of these concepts. (5-0) 5

***PSY 2505 Human Development:** Upon completion of this course, students should demonstrate knowledge of the physical, psychological, social, and intellectual development of humans from conception to death.
*Prerequisite: PSY 2504. (5-0) 5

***PSY 2514 Abnormal Psychology:** Upon completion of this course, students should be able to identify the major forms of mental illness as described in the DSM III, the etiology of mental illness and the preferred methods of treatment.
*Prerequisite: PSY 2504. (5-0) 5

***PSY 2136-2536 Special Topics in Psychology:** A number of selected topics will be presented to the class for examination and evaluation. Each student will complete a research project in an area of special interest, upon approval by, and under the direction of the instructor.
*Prerequisite: Consent of department head and instructor. (1-5 hrs. class/week—1 to 5 hrs credit)

PSY 3314 Principles of Humanistic Psychology: Upon completion of this course, students should demonstrate knowledge of what constitutes a healthy personality as described by the major humanistic theorists. (3-0) 3

Reading— Advancement Studies

RDN 9130 Basic Reading Skills: This individualized reading course is designed for students who need basic reading skills. Upon completion of this course, students should be able to demonstrate a sixth grade reading level on a standardized test; mastery of basic phonics; mastery of meaning of a passage written on a sixth grade level. (0-3) 1

RDN 9212 Reading for College: This course is designed to provide students preparing for college with basic study skills and rate improvement. Upon completion, students will demonstrate increased reading efficiency, vocabulary, comprehension, and study skills, including textbook reading, test taking, and note taking. (2-0) 2

RDN 9302 Advanced Vocabulary Improvement: This course is designed for adults who need non-specialized, college-level vocabulary improvement to enhance communication skills and to raise scores on standardized vocabulary tests. Upon completion of this course, students will demonstrate mastery of common Latin prefixes and roots, synonym shading, word analogies, connotation-denotation. (3-0) 3

RDN 9312 Speed Reading: An individualized, self-paced course designed to meet the needs of students, and lay and professional members of the community who want to increase speed in reading. Upon completion of this course, students should demonstrate a 100% increase in reading rate while maintaining an 80% level of comprehension as assessed by a standardized reading test. (3-0) 3

RDN 9502 Building Word Power: This is a reading course for adults who want basic vocabulary development in a structured, but flexible course to help them succeed in other reading, English, and math developmental courses. Upon completion of this course, students will demonstrate knowledge of common Latin and Greek roots and prefixes, including mastery of root and prefix meanings, identification and use of word derivatives in English and application to new vocabulary. (5-0) 5

RDN 9505 Reading Skills: This course in reading is designed for adults who need fundamental skill development to understand and learn from written material. Upon completion of this course, students should demonstrate mastery of basic vocabulary, comprehension, and study skills. (5-0) 5

***RDN 9510 Reading Improvement:** Upon completion of this course, students should be able to implement a system for long-range vocabulary development; find main ideas in given passages; draw inferences from those ideas; evaluate conflicting ideas to discover bias; comprehend college-level textbooks.
*Prerequisite: RDN 9505 or minimum score on placement test. (5-0) 5

Recreation

(See HPE)

Real Estate

RES 3601 Fundamentals of Real Estate (Salesman Prelicensing): This course provides students with basic knowledge and skills necessary for entry-level salesmen, and assists students to prepare for the state real estate salesman licensing examination. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: basic real estate concepts; property ownership and interests; transfer of title to real property; title assurance and property descriptions; land use controls; real estate brokerage and the law of agency; fair housing legislation; basic contract law, listing contracts and contracts for the sale of real estate; landlord and tenant and leases; N.C. Real Estate License Law, Commission Rules/Regulations and Trust Account Guidelines; mortgages, deeds of trust and real estate financing practices; closing real estate transactions; basic residential building construction; real property valuation; real estate management; property insurance; federal income tax implications of home ownership. (Offered every quarter.) (6-0) 6

Important Note Concerning Educational Requirements for Real Estate Broker License Applicants: Persons who apply for real estate broker licenses on the basis of real estate education at CPCC will be required by the North Carolina Real Estate Commission to have started and completed the following courses within five years preceding the filing of an Application Form: RES 3601 (see above) and RES 4301, RES 4302, and RES 4303 (see below).

***RES 4301 Real Estate Law (Broker Prelicensing):** This course provides students with knowledge of real estate law necessary for entry-level real estate brokers. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: introduction to real estate law; property ownership interests, including real estate taxes; transfer of title to real property; land use controls; real estate brokerage and the law of agency; real estate contracts; landlord and tenant; federal income taxation of real estate; License Law, Commission Rules/Regulations and Trust Account Guidelines; securities law; closing real estate transactions.

*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (Offered every quarter.) (3-0) 3

***RES 4302 Real Estate Finance (Broker Prelicensing):** This course provides students with knowledge of financing real estate transactions necessary for entry-level real estate brokers. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: financing instruments; types of mortgage loans; sources of mortgage funds; the secondary mortgage market; loan underwriting; consumer legislation affecting real estate financing; real property valuation.

*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (Offered every quarter.) (3-0) 3

***RES 4303 Real Estate Brokerage Operations (Broker Prelicensing):** This course provides students with the basic practical knowledge of real estate brokerage operations necessary to enable entry-level real estate brokers to operate or manage a real estate brokerage practice in a manner which protects and serves the public interest. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: introduction to real estate brokerage operations; establishing a brokerage firm; management; personnel; operations; records and bookkeeping system; financial operations.

*Prerequisite: RES 4301 and RES 4302, or completion of equivalent prelicensing courses approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (Offered every quarter.) (3-0) 3

***RES 4311 Residential Real Estate Sales:** This course is designed to help residential real estate brokerage students prepare to achieve high listing and sale productivity. Upon completion of this course, students should be able to set realistic personal productivity goals; establish a personal time-management system; describe methods for obtaining and servicing listings, including farming and FSBO cultivation; write ads and understand advertising strategies; develop a marketing plan; describe methods to obtain prospective buyers; qualify buyers; demonstrate proper telephone techniques; describe techniques for showing properties, obtaining purchase offers and closing sellers; explain how to build a personal referral service.

*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (Offered Winter quarter.) (3-0) 3

***RES 4315 Governmental Land Use Controls:** This course surveys regulations of great importance in the development and use of land. It helps brokers and salesmen learn how to obtain and provide purchasers reliable information on purposes for and conditions under which land may be used. Upon completion of this course, students should be able to state the principal functions of the local planning commission and departments of zoning, building standards and environmental health, and other agencies involved in controlling land use; discuss the contents and implementation of county long range plans, zoning and subdivision ordinances, and other regulations of land use; explain procedures for obtaining zoning amendments, variances and special use permits; state how to determine the uses for which a given tract of land may be developed and the kinds of improvements permitted and required on it.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (Offered Fall quarter.) (3-0) 3

RES 4371 Real Estate Property Management: This introductory course surveys the management of rent-producing retail, office, and apartment properties to achieve investment objectives of client owners. Upon completion of this course, students should be able to describe the management industry and profession; estimate financial benefits to property owners; illustrate utilization of the management plan; explain the manager's relations with client owners; discuss marketing, leasing and tenant administration; describe techniques for staffing, operating, and maintaining properties; discuss the basics of operating a management office, locating clients, and negotiating management contracts. (Offered Fall quarter.) (3-0) 3

***RES 4381 Residential Real Estate Appraisal I:** This course and RES 4382 provide students a foundation for the valuation of residential property. Upon completion of this course, students should be able to recognize how the four major forces influence real estate values; explain how basic economic concepts underlie real estate valuation; define market value; describe the valuation appraisal process; state sources of appraisal data and information; outline a narrative appraisal report; describe how to make neighborhood and site analyses and site valuations; identify principal structural components of houses; estimate reproduction costs and accrued depreciation; estimate market values of single-family residences by market data, cost, and gross-rent-multiplier approaches.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (Offered Fall and Winter quarters.) (3-0) 3

***RES 4382 Residential Real Estate Appraisal II:** This course combines the study and application of appraisal principles and techniques in both the classroom and the field. In order to complete the course, students are required to execute the valuation appraisal process for an assigned existing single-family residence and submit a written narrative appraisal report.
*Prerequisite: RES 4381. (Offered Winter and Spring quarters.) (3-0) 3

***RES 4385 Income Real Estate Appraisal I:** This course and RES 4386 familiarize students with the income approach to estimating the market value of real estate. Upon completion of this course, students should be able, given appropriate data and information, to do the following for a various types of income-producing property: estimate gross income and operating expenses; prepare a reconstructed operating statement; explain and estimate applicable interest, recapture, and capitalization rates; use present-value mathematics and a financial calculator in solving appraisal problems; extract rates from market data for economically comparable properties; calculate estimates of market value using gross income multipliers and direct capitalization; use band of investment, mortgage-equity components, and debt service coverage factors in appraisal; calculate values by residual techniques.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (Offered Winter Quarter.) (3-0) 3

***RES 4386 Income Real Estate Appraisal II:** Upon completion of this course, students should be able to use mortgage-equity and discounted-cash-flow methods to capitalize projected net income streams and reversions to properties into estimates of market value. These methods include yield capitalization and cash flow analysis, and take into account the availability and terms of current financing on value. These methods deal with both level and irregular net income streams. The calculations require that students become proficient in using a financial calculator to solve appraisal problems.
*Prerequisite: RES 4385. (Offered Spring Quarter.) (3-0) 3

***RES 4391 Commercial and Industrial Real Estate:** This course is designed to help students gain knowledge in selling, leasing, and managing commercial and industrial real estate. The real estate

practitioner should acquire increased professional understanding of commercial and industrial development and marketing, and of brokerage office operations. Upon completion of this course, students should be able to discuss and explain those unique characteristics of commercial and industrial properties which are of importance from the viewpoints of users, investors, lenders, developers, and community planners; demonstrate decision-making ability in situations applicable to selecting, leasing, investing capital, developing, marketing and managing commercial and industrial properties; show an understanding of brokerage office operations.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (Offered Winter Quarter.)
(3-0) 3

***RES 4393 Real Estate Investment Analysis:** This course is designed to help students acquire knowledge and skill in analyzing and marketing investment real estate. It includes demonstration of applications of a personal computer. Upon completion of this course, students should be able to do the following in connection with a particular investment property: specify the data and information needed to carry out an investment analysis; estimate projected gross income to, operating expenses for, and net operating income to the property; estimate effects of financing to obtain before-tax cash flow to equity; estimate effects of ordinary income tax to obtain after-tax cash flow to equity; estimate proceeds of resale after capital gains tax; calculate both internal and financial-management rates of return on investment; prepare an appropriate report of the findings of the investment analysis.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (Offered Winter Quarter.)
(3-0) 3

***RES 4395 Commercial Real Estate Finance:** This course is designed to help students and practicing professionals gain knowledge in assembling, analyzing and presenting requests for the financing of commercial real estate projects. The real estate practitioner should acquire increased professional understanding of the analytical methods and techniques utilized in commercial real estate finance, as well as a working knowledge of the factors involved in a request for financing a project. Upon completion of this course, students should be able to assemble information necessary and sufficient for preparing a satisfactory loan presentation package; analyze the data to ascertain project feasibility and insure completeness; prepare a presentation request for a commercial real estate loan; attain, through negotiation and interviewing techniques, a degree of comfortable competence in assisting the borrower to present the loan request to the lending institution.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (Offered Spring Quarter.)
(3-0) 3

Recreation Associate—

(See Health, Physical Education, and Recreation)

Respiratory Care Technology

***RTH 3202 Introduction to Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to define terms used in respiratory pathology and diagnosis; use a stethoscope to identify normal and abnormal breath sounds and make clinical correlations; recognize normal anatomical landmarks and common abnormalities associated with chest radiographs; demonstrate knowledge of anatomy of upper and lower airway; gather pertinent information from a patient's chart to include history, physical exam, and laboratory data; describe the technique and uses of diagnostic procedures including sputum exam, endoscopy, bronchoscopy, pulmonary angiography, lung scanning, computerized tomographic scanning, pulmonary function studies, arterial blood gases; list and describe diseases of the upper respiratory tract.
*Prerequisite: RTH 3601; corequisite: RTH 3602, BIO 1503.
(2-0-0) 2

***RTH 3304 Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to recognize and discuss the etiology, pathology, lab findings, and clinical manifestations of infectious diseases of the lower respiratory tract including viral, mycoplasma, and bacterial pneumonias; explain the pathology of chronic obstructive and restrictive pulmonary diseases; list the various types of pulmonary carcinomas; discuss the physiologic alterations of the lung caused by extra-pulmonary sources; explain and list conditions of the nervous system which could lead to respiratory failure; recognize and list causes of ARDS; explain the pathology and clinical findings in disorders of pulmonary diseases due to

mycobacteria; explain the different immunologic diseases of the lung; discuss the nutritional status of critical care patients; recognize normal and abnormal lab values; explain and discuss the general pathologic process of renal failure.
*Prerequisite: RTH 3202; Corequisite: RTH 3702.
(2-2-0) 3

***RTH 3305 Respiratory Pharmacology:** Upon completion of this course, students should be able to apply general priniciple of pharmacology—terminology and mechanisms of drug action; use current reference standards; read and interpret a prescription; compute dosages, determine ratios and percent, and prepare solutions of airway dialators; describe the pharmacology of mucokinetic substances, their preparation, and method of administration; list and describe antibiotics used in the treatment of pulmonary infections; explain the pharamcologic effects of drugs commonly seen in overdose situations; explain the mechanism of action and list commonly used muscle relaxants; explain the mechanism of action and list commonly used drugs affecting central respiratory centers, including commonly encountered drugs producing sedation, hypnosis, anethesia, and stimulants; diagram or otherwise discuss normal rental function and explain mechanism of action of commonly used diuretics; discuss corticosteroids in respiratory care.
*Prerequisite: RTH 3601; Corequisite: RTH 3202, RTH 3602. (3-0-0) 3

***RTH 3602 Respiratory Care Procedures I:** Upon completion of this course, students should be able to identify clinical situations requiring and properly apply humidity and aerosol devices with associated oxygen delivering capabilities; describe normal mucus clearing mechanisms; discuss normal humidification by airway; assemble and compare nebuizers and humidifiers and discuss their function; describe hazards associated with humidity and aerosol therapy; deliver, monitor, and evaluate aerololized pharmacologic agents to patients with and without artificial airways; discuss types of and correct procedure for administering incentive breathing devices; list indications and contraindications of bronchopulmonary drainage, chest percussion and chest vibration; correctly perform the basic steps of physical examination to include reviewing and gathering data from patient record, inspection and palpation and auscultation.
*Prerequisite: RTH 3601, BIO 1504, MAT 1504.
(2-4-6) 6

***RTH 3702 Respiratory Care Procedures II:** Upon completion of this course, students should be able to read and interpret results from arterial blood gas analysis; perform and evaluate methods of bronchopulmonary drainage; identify and use artificial airways; manage the airways of patients requiring artificial airways; recognize complications and describe procedures designed to prevent complications of patients with artificial airways; complete a comparative assessment of and use manual resuscitators; calibrate and use selected gas analyzers; become certified by the AHA in basic cardiac life support.
*Prerequisite: RTH 3602, BIO 1505, Corequisite: BIO 3404. (2-4-9) 7

***RTH 3601 Introduction to Respiratory Care:** Upon completion of this course, students should be able to describe the major developments in medicine and science as they relate to the historical aspects of respiratory care; list and describe the professional and accrediting organizations; explain the roles and responsibilities of the various respiratory care practitioners; use the English and metric systems of measurement interchangeably; read a patient chart; utilize physical laws describing the behavior of gases applicable to respiratory care; recognize, evaluate, and recommend methods of treating oxygenation abnormalities; assemble, operate, and supply equipment used to administer medical gas therapy; describe the functions and interdependence of the cardiovasular and respiratory systems.
*Prerequisite: admission to Respiratory Care Technology program. (4-0-6) 6

***RTH 4417 Neonatal and Pediatric Respiratory Care:** Upon completion of this course, students should be able to compare fetal and neonatal cardiopulmonary anatomy and physiology; list maternal risk factors; describe newborn scoring systems; relate the events of birth in terms of ventilation and perfusion; describe indications and techniques for neonatal resuscitation; list the common causes of acute respiratory failure in neonates; discuss the rationales of ventilatory support in neonates; review considerations in stabilizing and transporting neonates; write a case report; delineate the special respiratory care needs of children; list the common causes of acute respiratory failure in children.
*Prerequisite: RTH 4814; Corequisite: RTH 4724.
(2-0-6) 4

***RTH 4504 Pulmonary Function I:** Upon completion of this course, students should be able to measure and evaluate static and dynamic lung function including the following tests: volumes, capacities, flowrates, diffusion capacity, and dead space to tidal volume ratio; describe and evaluate tests of small airway function; classify and describe a quality control protocol for spirometers, gas analyzers, and pH/blood gas analyzers; explain the rationale and techniques of polysomnography; describe tests of airway reactivity;

describe normal and abnormal responses to exercise, and explain techniques of exercise testing.
*Prerequisite: RTH 4724, ENG 1504; Corequisite: RTH 4505. (2-0-9) 5

***RTH 4505 Pulmonary Function II:** Upon completion of this course, students should be able to measure and evaluate static and dynamic lung function including the following tests: volumes, capacities, flowrates, diffusion capacity, and dead space to tidal volume ratio; describe and evaluate tests of small airway function; classify and describe a quality control protocol for spirometers, gas analyzers, and pH/blood gas analyzers; explain the rationale and techniques of polysomnography; describe tests of airway reactivity; describe normal and abnormal responses to exercise, and explain techniques of exercise testing.
*Prerequisite: RTH 4724; Corequisite: RTH 4504. (2-2-6) 5

***RTH 4606 Clinical Application I:** Upon completion of this course, students should be able to provide respiratory care to patients in critical care settings; participate in emergency situations while maintaining an airway and breathing for the patient; provide intensive respiratory care to the infant and pediatric patient; discuss the role of supervisory personnel; discuss the ethical considerations of respiratory care; participate in the delivery of respiratory care in the home; outline a program of cardiorespiratory rehabilitation, become certified by the AHA as an instructor in BCLS.
*Corequisite: RTH 4607. (2-0-12) 6

***RTH 4607 Clinical Application II:** Upon completion of this course, students should be able to provide respiratory care to patients in critical care settings; participate in emergency situations while maintaining an airway and breathing for the patient; provide intensive respiratory care to the infant and pediatric patient; discuss the role of supervisory personnel; discuss the ethical considerations of respiratory care; participate in the delivery of respiratory care in the home; outline a program of cardiorespiratory rehabilitation; become certified by the AHA as an instructor in BCLS.
*Prerequisite: RTH 4505; Corequisite: RTH 4606. (2-0-12) 6

***RTH 4415 Equipment for Continuous Ventilation:** Upon completion of this course, students should be able to classify selected ventilators; discuss compliance and how it relates to ventilator performance; list and describe the cycling mechanism and mode of operation of selected ventilators; trace gas flows from power source to patient in selected ventilators; describe a protocol for the cleaning and sterilization of selected ventilators; identify and recognize nosocomial infections an recommend effective methods of infection control; participate in a hospital equipment processing program; list testing procedure for selected ventilators prior to patient use; calibrate and operate selected positive pressure breathing devices; summarize and discuss indications, hazards, implementation and methods of monitoring IPPB therapy.
*Prerequisite: RTH 3702, PHY 3414; Corequisite: RTH 4814. (2-4-0) 4

***RTH 4724 Continuous Ventilation:** Upon completion of this course, students should be able to list indications for using mechanical ventilation; given flow and pressure patterns, identify the type ventilator exemplified; list clinical situations requiring the use of volume controlled ventilators; explain the indications and procedures for weaning patients from ventilators; explain the indications and procedures for establishing intermittent mandatory ventilation, positive end expiratory pressure, expiratory resistance, inspiratory plateau and pressure support ventilation; interpret arterial blood gas values, and make appropriate ventilator changes.
*Prerequisite: RTH 4415; Corequisite: RTH 4417. (3-2-9) 7

***RTH 4814 Introduction to Emergency and Intensive Respiratory Care:** Upon completion of this course, students should be able to monitor correctly parameters of ventilation; implement selected therapeutic procedures in critical care units; demonstrate ability to establish, maintain, and recognize normal and abnormal data associated with invasive cardiovascular procedures; discuss and relate the pharmacologic effects of cardiovascular agents; recognize and discuss normal ECG patterns and basic cardiac arrhythmias; perform endotracheal intubation on an adult and infant model; obtain and analyze an arterial blood sample; demonstrate ability to maintain and monitor established airways.
*Prerequisite: RTH 3702, BIO 3404. (2-2-15) 8

Russian

RUS 1600 Elementary Russian I: Upon completion of this course, students should be able to use the Cyrillic alphabet, the basic declensions of nouns, pronouns, and adjectives and some conjugations of verbs. With a knowledge of some basic vocabulary, students should be able to apply these constructions in simple, grammatically correct sentences orally as well as in written composition. Students should be able to translate simple sentences from Russian into English and English into Russian. (5-2) 6

***RUS 1601 Elementary Russian II:** By the end of this continuation of Elementary Russian, students should be able to use basic vocabulary and grammar to read, to translate orally, and to write basic sentence patterns from Russian to English and English to Russian at the first-year level. They should also be able to converse in simple sentences.
*Prerequisite: RUS 1600 or equivalent. (5-2) 6

Secretarial

SEC 3104 Electronic Calculators: Upon completion of this course, students will be able to operate ten-key electronic calculators using the touch system. Functional keys, special feature keys, and memory will be emphasized and reinforced through application to business-type problems. (0-2) 1

SEC 3301 Legal Terminology and Vocabulary: Upon completion of this course, students will be able to demonstrate an extensive knowledge of legal terminology and vocabulary including definitions, usage, derivations, and spelling. (3-0) 3

SEC 3302 Effective Word Techniques: Upon completion of this course, students will show proficiency in spelling, word usage, business terminology, and intelligent use of the dictionary. (3-0) 3

SEC 3305 Editing, Proofreading, and Reference Skills: Upon completion of this course, students will be able to use a variety of reference materials to answer specific questions regarding punctuation, grammar, capitalization; number usage, abbreviations, format, and document transmission as they relate to the preparation of business letters, memorandums, and reports. In addition, students will be able to proofread materials for accuracy. (3-0) 3

SEC 3311 Receptionist Skills: Upon completion of this course, students should be familiar with operation of key telephone devices used by a receptionist; be knowledgeable concerning effective public relations attitudes and skills that project a positive company image; be efficient in such job-related tasks as making appointments, recording messages, receiving and screening calls and callers, processing company mail, controlling petty cash accounts, and maintaining bulletin boards. (3-0) 3

SEC 3320 Personal Projection: Upon completion of this course, students will be able to recognize the importance of the physical, intellectual, social and emotional dimensions of personality. Emphasis will be placed on grooming and methods of personality improvement. (3-0) 3

SEC 3326 Insurance Terminology and Vocabulary: Upon completion of this course, students should be able to spell and define insurance terms; perform elementary research tasks in using insurance reference materials; explain the basic purpose and principles involved in insurance on selected categories; discuss current insurance issues and cases. (3-0) 3

SEC 3404 Keyboarding: Upon completion of this course, students should be able to type by touch, with emphasis on correct technique, mastery of the keyboard, simple business correspondence, and reports. Proficiency test may be taken for this course. (3-2) 4

***SEC 3405 Document Formatting I:** Upon completion of this course, students will demonstrate a further mastery of correct typewriting techniques to be applied in tabulations, manuscripts, correspondence, and business forms. Individualized and self-instructional methods are employed. Speed requirement: 35 words per minute for 5 minutes.
*Prerequisite: SEC 3404 or equivalent. (3-2) 4

***SEC 3406 Document Formatting II:** In this course, students will begin to function as expert typists producing mailable copies. The production units will involve tabulations, manuscripts, correspondence, and business forms. Speed requirement: 45 words per minute for 5 minutes.
*Prerequisite: SEC 3405 or equivalent. (3-2) 4

***SEC 3414 Shorthand I:** Upon completion of this course, students will demonstrate a knowledge of shorthand theory. The emphasis will be on phonetics, penmanship, word families, brief forms, and phrases. Proficiency test may be taken for this course.
*Corequisites: ENG 1504, SEC 3404 or equivalent or departmental consent. (3-2) 4

***SEC 3415 Shorthand II:** Upon completion of this course, students will demonstrate a greater mastery of Gregg shorthand theory with greater emphasis on dictation and elementary transcription. They should also be able to take and transcribe at the typewriter new material at 60 words per minute for 3 minutes. Proficiency test may be taken for this course.
*Prerequisite: SEC 3414; Corequisite: ENG 3515, SEC 3405 and SEC 3305 or equivalent or departmental consent. (3-2) 4

***SEC 3416 Shorthand III:** In this course, students will continue to review shorthand theory and to build speed. Emphasis will be on development of speed in dictation and accuracy in transcription. Upon completion of this course, students will be able to take

and transcribe new material at 80 words per minute and mailable items at 70 words per minute.
*Prerequisite: SEC 3415 or equivalent, ENG 3515, SEC 3305; Corequisite: SEC 3406 or departmental consent. (3-2) 4

SEC 3426 Insurance Office Skills: Upon completion of this course, students should be able to set up an efficient records and filing system for personal production; use effective telephone skills; dictate in a correct, organized manner; write a resume; represent themselves to advantage in a job interview. (2-2) 3

***SEC 4201 Secretarial Cooperative Experience I:** In this course, students are actually placed in an office environment in the Charlotte business community. Upon completion of this course, they should be able to demonstrate the ability to commuicate effectively with others; accept responsibilities of promptness and personal neatness; learn company and department practices and procedures. In addition, they will be able to integrate their classroom training with on-the-job experience.
*Prerequisite: departmental consent. (0-20) 2

***SEC 4202 Secretarial Cooperative Experience II:** Students will continue to work in an office environment in the Charlotte business community. Upon completion of this course, they will be able to demonstrate competently the ability to communicate effectively with others, to accept responsibility for promptness and personal neatness, and to perform company and department practices and procedures. In addition, they will have integrated their classroom training with on-the-job experiences.
*Prerequisite: SEC 4201. (0-20) 2

***SEC 4305 Business Communications:** Upon completion of this course, students will have developed effective techniques for handling the special requirements of business letters and other forms of business communications.
*Prerequisites: ENG 1504, ENG 3515, or departmental consent. (3-0) 3

SEC 4324 Information Processing Concepts: This is a concepts course designed for support staff and managers or professionals who currently use or are interested in using computers in their work. It provides a perspective of the evolution and impact of word and information processing on the automated office. Upon completion of this course, students will understand concepts of system configuration, document production, communication, distribution, storage and retrieval, document protection, and the relationship of the office employee to the word processing environment. (3-0) 3

***SEC 4326 Insurance Office Problems:** Upon completion of this course, students should have practical skills typing, and completing forms and documents used in life, accident, and health offices, and fire and casualty offices. Students should also have skill in typing various letters used in those offices.
*Prerequisite: SEC 3405. (2-2) 3

SEC 4370 Records Management: Upon completion of this course, students will know the fundamentals of indexing and filing. Theory and practice are combined by the use of miniature letters, filing boxes and guides. Topics studied will include alphabetic name, geographic, subject, and numerical filing. In addition, students will learn methods of storing and retrieving special records such as accounting records, legal documents, magnetic records, and microrecords. Finally, students will be able to identify the essential elements of a successful technology-based records system. (2-2) 3

***SEC 4400 Typing Skill Building:** Upon completion of this course, students will have improved accuracy and speed in typewriting, using an individualized, diagnostic, prescriptive approach.
*Prerequisite: Students must know the typewriter keyboard. (3-2) 4

***SEC 4407 Document Production:** Upon completion of this course, students will be able to type a series of five projects in a mailable format. In addition the course will review the fundamental principles of typewriting as they apply to production work with special emphasis on unarranged and uncorrected material. Speed requirement: 55 words a minute for 5 minutes.
*Prerequisite: SEC 3406. (3-2) 4

***SEC 4409 Legal Document Production:** Upon completion of this course, students will be able to keyboard 60 words per minute for 5 minutes on straight-copy material with no more than 5 errors; produce problems of a mailable nature dealing with litigation, famiy law, negligence, business organizations, wills and estates, real estate, and bankruptcy; increase their legal vocabulary and knowledge of legal office procedures.
*Prerequisite: SEC 3406 and SEC 4429. (3-2) 4

***SEC 4416 Medical Document Production:** Upon completion of this course, students should be able to type 55 words per minute for 5 minutes on straight-copy material with no more than five errors; produce problems of a mailable nature typical of those required in a medical office; improve their medical vocabulary and knowledge of medical office procedures; complete a variety of medical insurance

claims.
*Prerequisite: SEC 3406. (3-2) 4

***SEC 4425 Machine Transcription:** Upon completion of this course, students will be able to operate a transcribing machine and will have transcribed various kinds of communications at the computer into mailable form. Emphasis will be placed on grammar and proofreading.
*Prerequisite: ENG 3515 and SEC 4429 or departmental consent. (3-2) 4

***SEC 4429 Word Processing:** Upon completion of this course, students will demonstrate the ability to create, edit, and manipulate documents of various sophistication on a microcomputer using a word processing software package.
*Prerequisite: SEC 3405 or departmental consent. (3-2) 4

***SEC 4448 Legal Shorthand:** In this course, students will be able to demonstrate the ability to take in shorthand and then transcribe rapidly and accurately legal documents, instruments, and correspondence. Shorthand shortcuts for the legal vocabulary will be presented, and law office procedures will be emphasized. Upon completion of this course, students should be able to take and transcribe at the typewriter dictation at a minimum rate of 80 words a minute for 3 minutes and mailable items at a minimum rate of 70 words a minute.
*Prerequisite: SEC 3415, SEC 3301, or departmental consent. (3-2) 4

***SEC 4517 General Office Procedures:** Upon completing this course, students will be able to demonstrate how to handle secretarial responsibilities such as receiving office visitors, handling the mail, telephone, planning travel, preparing financial records, purchasing supplies, organizing the desk and office, using reprographic services. They will also be able to prepare a resume, an application letter, an application form, and a follow-up letter.
*Prerequisite: SEC 3406 or departmental consent. (5-0) 5

SEC 5200 Computer Keyboarding: Upon completion of this course, students will be able to input alphabetic and numeric characters on a microcomputer using the touch system of typing. (1-2) 2

Hospital Ward Secretary

HRC 5300 Orientation to Health Record Clerk: At the completion of this course, students should be able to describe the structure and functions of the different types of medical facilities; discuss the job description of personnel who work with the health record; identify the qualifications required of a health record clerk; demonstrate good interpersonal relationships in given situations. (2-2-0) 3

***HRC 5301 Receptionists Skills:** At the completion of this course, students should be able to perform the receptionist duties and assume the responsibilities of this position in a medical facility; explain various types of medical insurance, and complete insurance claim forms correctly for each.
*Prerequisite: HRC 5300. (2-2-0) 3

HRC 5302 Professional Interactions and the Health Worker: Upon completion of this course, students should be able to discuss skills needed to establish rapport between health worker and patient as well as co-worker; list the effects that behavior of the health worker may have on the well-being of the patient; discuss the goal of the health care institution with relationship to the community, the health professional, and the patient. (3-0-0) 3

***HRC 5401 Unit Clerk Procedures:** At the completion of this course, students should be able to perform the clerking tasks that are routinely done on the nursing unit of a medical facility.
*Prerequisites: HRC 5300, MED 3304. (2-4-0) 4

Sociology

SOC 1301 Group Interaction: This is a course designed to enhance students' understanding of group process and dynamics. Upon completion, they should demonstrate a knowledge of the skills essential for analysis of forces at work in groups and for working effectively in a group context. (3-0) 3

SOC 1500 Sociology of the Family: This is a course designed to help students develop an understanding of contemporary American family patterns when examined from a cross-cultural perspective. Upon completion of this course, students should demonstrate a knowledge of the family as a social institution and the social forces which have influenced its development. (5-0) 5

SOC 1505 Sociology of Religion: Upon completion of this course, students should be able to describe the sociological perspective on religious behavior; trace the origin and development of religion; list the types and characteristics of religious conversion; compare and contrast religious systems in various cultures; and describe how religion interacts with other social institutions such as politics, the economy, and the class system. (5-0) 5

SOC 2514 Introduction to Sociology: This is a course designed to introduce students to the discipline of sociology. Upon completion, they should demonstrate a knowledge of the basic concepts of sociology, their application to contemporary group life, and the skills essential for objective analysis of one's social and cultural heritage. (5-0) 5

SOC 2515 Social Problems: This is a course which concentrates on America's social problems. Upon completion, students should demonstrate an understanding of some of the major social problems confronting contemporary American society, as well as the theories which account for the underlying conditions and human behaviors which result from these conditions. Proposals for reform will be examined. (5-0) 5

***SOC 2524 Special Problems of Sociology:** This is a course for advanced students who have been approved by the department head. Students will consult with a departmental instructor and select a sociological topic of study. The study may involve library research as well as actual observation and the collection of data. Where several students have selected the same or similar topics concerned with a timely or important sociological subject, a seminar or class may be arranged.
*Prerequisite: Consent of department head and instructor. (5-0) 5

Small Engine Repair

PME 5211 Small Engine Repair I: Upon completion of this course, students should be able to describe the basic operation of two-stroke and four-stroke-cycle air-cooled engines; describe and service at least two types of magneto ignition systems and carburetion systems; perform de-carboning service on heads of air-cooled engines. (1-3) 2

***PME 5214 Small Engine Overhaul:** Upon completion of this course, students should be able to describe and perform service on most small air-cooled two- or four-stroke-cycle engines. This service will include: disassembly and reassembly; measuring components for wear; servicing valves; resizing cylinders; replacing bearings and bushings.
*Prerequisite: PME 5211. (1-3) 2

Spanish

SPA 1300 Survival Spanish I: This course provides an oral approach to comprehending and communicating in Spanish. Upon completion of SPA 1300, students should be able to use basic communication in terminals, shops, restaurants, hotels, and other places. Videotapes and extensive conversation in the classroom reinforce instruction. *(Elective credit only. Does not satisfy humanities requirement.)* (3-0) 3

SPA 1314 Survival Spanish II: Upon completion of this course, students should develop further the listening, speaking, reading, and writing skills attained during the first course of Survival Spanish. Students should be able to master apt phrases for use in health services, travel services, and school/campus situations. (3-0) 3

SPA 1600 Elementary Spanish I: Upon completion of this course, students will have a knowledge of some basic elements of Spanish in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. *(Does not satisfy humanities requirement.)* (5-2) 6

***SPA 1601 Elementary Spanish II:** This is a continuation of SPA 1600 in basic elements of conversation, reading, and writing. Tapes, filmstrips, movies, and extensive conversation in the classroom.
*Prerequisite: SPA 1600 within previous two quarters or departmental consent. *(Does not satisfy humanities requirement.)* (5-2) 6

***SPA 2320 Special Topics:** This is an advanced course in which students and the instructor select topics for independent study. The class meets for oral reports and discussion.
*Prerequisite: SPA 2600 within two previous quarters or consent of department head. (3-0) 3

***SPA 2600 Intermediate Spanish I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings.
*Prerequisite: SPA 1601 or two high school units within previous two quarters or departmental consent. (5-2) 6

***SPA 2601 Intermediate Spanish II:** Upon completion of this course, students will have completed a review of grammar, along with readings in Spanish with emphasis on people and events.
*Prerequisite: SPA 2600 within previous two quarters or departmental consent. *(SPA 2600 and SPA 2601 combined will satisfy humanities requirement.* (5-2) 6

Speech

SPH 1300 Oral Communications: Upon completion of SPH 1300, students should be able to demonstrate basic communication skills when speaking before an audience, using the fundamental techniques of preparation, organization, and delivery. They will also participate in group discussions and demonstrate appropriate listening behavior. (3-0) 3

SPH 1301 Persuasive Speaking: Upon completion of SPH 1301, students should be able to show through the use of analysis, evidence, and reasoning patterns that attitudes, actions, and beliefs may be altered. Persuasive methods of evaluative and actuative claims will be emphasized. (3-0) 3

SPH 2101 Parliamentary Procedure: Upon completion of SPH 2101, students should be able to participate in business, professional, labor, service, and fraternal organizations that use the rules of parliamentary procedure. (1-0) 1

SPH 2300 Voice and Diction: Upon completion of SPH 2300, students should be able to pronounce the sounds of standard American English, identify them in simple words, and employ the sounds through individual readings. They should be able to demonstrate proper breath control, volume, pitch rate, phrasing, and vocal variation. (3-0) 3

SPH 2304 Public Speaking: Upon completion of SPH 2304, students should be able to prepare and deliver the following speeches: informative, entertaining, and persuasive. In addition, they should be able to introduce a speaker, present and accept awards, and deliver impromptu speeches. (3-0) 3

Transportation

TRN 3300 Introduction to Transportation: This is an introductory course which surveys the entire field of transportation, transportation management, and the career opportunities available in the field. Upon completion of the course, students should be able to trace the development of the transportation system as it exists in the United States; compare the various modes of transportation; explain the career opportunities in each area, including traffic management, sales, and operations; describe briefly how rates are established; explain how highways are financed; describe briefly the regulatory aspects of the industry, including recent deregulation; describe the operational aspects and management of companies involved in transportation. (3-0) 3

TRN 3320 Motor Fleet Supervision I: This course is Part I of a two-part series designed for the individual who is responsible for fleet safety within the trucking industry. Part I will emphasize hiring, training, supervision, and/or evaluating employees in the trucking industry. Upon completion of Part I, students will be able to identify and describe the essential elements of a fleet safety program as prescribed by the American Trucking Association (ATA); apply DOT requirements in employee selection procedure; apply industry recommended procedures for training; demonstrate proper techniques in driver supervision as prescribed by the ATA. (3-0) 3

TRN 3321 Motor Fleet Supervision II: This course is Part II of a two-part series designed for the individual who is responsible for fleet safety within the trucking industry. Part II will emphasize accident prevention incentive awards, hours of service, communications, and OSHA. Upon completion of this course, students should be able to identify causes and prevention of accidents; apply proper procedures in the notification, reporting, and recording of accidents as required by DOT regulations; establish and conduct incentive award programs; complete and supervise completion of DOT required documents; apply effective communication techniques; interpret and apply applicable OSHA regulations; design (in writing) a fleet safety supervision program including all essential elements as prescribed by the ATA. (3-0) 3

TRN 3350 Highway Transportation: This is a course which examines the motor carrier industry. Upon completion, students should be able to identify and discuss classifications of motor carrier users, types of carriers, state and federal regulations and regulatory agencies; facilities and types of equipment. (3-0) 3

TRN 3351 Traffic Management: Upon completion of this course, students should be able to compare for-hire carriers and company-operated transportation as to services and costs; analyze and interpret freight tariff; explain freight classification and rate structure; identify various routing procedures; define in-transit arrangements, reconsignments, and diversions; apply procedures to avoid demurrage; describe documentation, and movement of export and import traffic; identify areas of carrier liability, and methods of processing freight claims. (3-0) 3

TRN 3360 Transportation Pricing: This is a problems approach to the study of motor carrier rates and charges. Emphasis is placed on tariffs published by the Southern Motor Carrier Rate Conference. Upon completion of this course, students should be able to discuss the classification, construction, and application of rates and charges; compute simple rate problems; apply various Southern Motor Carrier Rate Conference Tariffs to practice problems. (2-2) 3

TRN 4200 Cooperative Education I: Upon successful completion of this course, students should be able to evaluate their own interest in traffic and transportation as a career; identify job opportunities; complete a resume and employment application; participate in an employment interview; obtain employment to assess general requirements for successful employment in traffic and transportation; evaluate their own capacity to comply with such demands. (0-20) 2

TRN 4351 Freight Claims: Upon completion of this course, students should be able to investigate damaged shipments; gather and present facts to determine carrier liability; file and process a claim for payment; describe actions shipper and carrier can take to prevent damage from loss, damage, or delay. (3-0) 3

TRN 4356 Physical Distribution Management: Upon completion of this course, students should be able to describe the movement and storage of finished goods from the end of the production line to the ultimate consumer; identify the various segments involved in physical distribution; compare the advantages and disadvantages of each segment in order to make more cost-effective decisions. (3-0) 3

TRN 4358 Warehousing: This is a course which examines warehousing from two perspectives—the user of public or private warehousing and the warehouse operator who handles them. Upon completion of this course, students should be able to describe the types of warehousing, public and private; user considerations; list and explain various management methods and concepts for the operator of a warehouse facility; recognize and describe the different types of equipment used in material handling. (3-0) 3

TRN 4375 Import Transportation Management: Upon successful completion of this course, students should be able to demonstrate a thorough understanding of import terminology; explain the process of importing and the associated support organizations, including legal and regulatory controls; apply practical knowledge in organizing and staffing an import department; identify the responsibilities and services of overseas consolidation; process import documentation including the responsibilities of the clearing agent and U.S. Customs; select and utilize the proper carrier of import transportation; locate sources of information and special services; identify and analyze trends and their impact on international transportation. (3-0) 3

TRN 4380 Export Transportation Management: Upon successful completion of this course, students should be able to demonstrate a thorough understanding of export terminology; explain the participants in exporting and associated supporting organizations; apply practical knowledge in organizing and staffing an export department; identify the responsibilities and services of international freight forwarders, including legal and regulatory controls; write and process an export order, including transport by all modes of transportation, insurance coverage, and terms of payment; describe the use of freight consolidation and overseas distribution; identify and analyze trends and their impact on international transportation; locate sources of information and special services. (3-0) 3

Travel and Tourism Technology

(Pending State Approval)

TAT 3200 Travel and Tourism Etiquette: In this course, students will review those social skills important to deportment in public situations. There will be a general review of table manners, restaurant and meeting etiquette, dress standards, and general interpersonal manners. (2-0) 2

TAT 3300 Introduction to the Travel Industry: Upon completion, students should have a basic understanding of the modern travel and tourism business. A variety of elements will be discussed, as well as discussions about the economic and social impacts of the industry. (3-0) 3

TAT 3302 Surface Transportation: Upon completion of the course, students should have extensive insights into surface transportation and how those modes interlate to the modern travel and tourism industry. Students will explore the cultural, social, and economic impacts of surface transportation. Specific modes will be covered by the course in some detail. (3-0) 3

TAT 3303 Tourist Attractions: Upon completion of the course, students should have a broad background in the modern attraction industry. This survey course will delve into the impacts of the attraction industry on our culture, society, and economy. The expanded definitions of attractions and their role in the travel and tourism industry will be examined. (3-0) 3

TAT 4301 Tourism Marketing: Upon completion of the course, students will have basic insights into the tourism marketing process. Basic marketing concepts will be discussed. There will be basic work on surveying and survey techniques. Specifically, the course will look into the marketing of hotels, motels, airlines, resorts, restaurants, sporting events, attractions, etc. Advertising and public relation alternatives will be considered. (3-0) 3

TAT 4304 World Destinations & Resorts I: Upon completion of this survey course, students will have a broad knowledge of the major resorts and destinations in the Western Hemisphere. Special emphasis will be given to those concerns in the United States. Major points of entry will be discussed. (3-0) 3

TAT 4305 World Destinations & Resorts II: Upon completion of this survey course, students will have a general background of the major resorts/tourism destinations in the Non-Western Hemisphere. Major tourism points of entry and interest will be discussed. (3-0) 3

TAT 4306 Group Arranging/Meeting Planning: Upon completion of this course, students will understand the basics of group tours, meetings, business meetings, incentive trips, and conventions. The course will cover how to book a group with a bus company, airline, hotel convention center, and attraction. (3-0) 3

TAT 4307 A History of Beverages: Upon completion of this course, students will have a basic understanding of major American, French, Italian, and German wine growing/areas. They will also have a basic understanding of distilled and brewed spirits. Students will learn serving techniques and the basics of beverage etiquette. (3-0) 3

TAT 4501 Hospitality Computer I: Upon completion of the course, students will understand how to make domestic airline reservations using an airline computer. They will learn how to access the computer for updated information, how to book a flight, how to make special requests, and how to make changes, additions, and deletions. (3-6) 5

TAT 4502 Hospitality Computer II: Upon completion of this course, students will have a basic understanding of the booking of international air flights. Included in the course are discussions about carrier codes, schedules, connecting times, and currency conversions. (3-6) 5

TAT 4503 Hospitality Computer III: Upon completion of the course, students will know how to use an airline computer to book limousines, rental cars, hotels, resorts, attractions, airline packages, etc. They will also learn how to access the computer for information and selling purposes. (3-6) 5

TAT 4504 Practicum I: Upon completion of this course, students will be able to relate their career goals to actual operations. Students will complete this course in specific area of interest. (3-20) 5

Welding

WLD 5203 Blueprint Reading for Welders I: Upon completion of this course, students should be able to sketch multi-view drawings; interpret conventional lines, dimensions, notes, and welding symbols; make pictorial sketches; interpret industrial drawings used in welding shops. (1-2) 2

***WLD 5204 Blueprint Reading for Welders II:** Upon completion of this course, students should be able to read and interpret industrial welding prints of a more complex nature; make sketches of welding assemblies; interpret detailed welding symbols.
*Prerequisite: WLD 5203. (1-2) 3

***WLD 5205 Welding Qualification Test:** Upon completion of this course, students should be able to satisfactorily complete a welding pretest on 1/4″ and 3/8″ carbon steel using the shielded metal arc process with AWS E6010 and E7018 electrodes in the flat, vertical upward, and horizontal positions, and satisfactorily complete the AWS DI.1-86 qualification examination. This examination will be interpreted using radiographic procedures by a qualified outside testing agency.
*Prerequisites: WLD 5433, WLD 5421, WLS 5422; Corequisites: WLD 5267, or program director approval based on evidence of adequate institutional or on-the-job training. (0-6) 2

WLD 5210 Basic Oxyacetylene Welding: Upon completion of this course, students should be able to identify components, set up, calibrate, and operate the oxyacetylene welding equipment; demonstrate surface welding, brazing applications, and flame cutting methods applicable to mechanical repair work; identify and demonstrate safety precautions pertaining to oxyacetylene welding and cutting. (1-3) 2

WLD 5220 Basic Electric Arc Welding: Upon completion of this course, students should be able to describe the essentials of shielded metal arc welding; operate a rectifier type welding machine; weld the more common types of joints applicable to mechanical repair work in the flat position; identify and demonstrate safety precautions pertaining to shielded metal arc welding. (1-3) 2

*__WLD 5240 Introductory Pipe Welding:__ Upon completion of this course, students should be able to discuss pipe welding procedures, pipe and tubing measurements; discuss proper procedures for surface preparation, fitting, positioning, gap clearance, and tacking of pipe; demonstrate proficiency in oxyacetylene flame cutting of pipe and test specimens for guided bend test and document results; weld pipe using shielded metal arc welding process with E-6010 and E-7018 electrodes in the rolled position; demonstrate and practice safety precautions pertaining to shielded metal arc welding.
*Prerequisite: WLD 5433, WLD 5421, or Welding program director's approval; Corequisite: WLD 5422.
(1-3) 2

*__WLD 5241 Flux Cored Arc Welding:__ Upon completion of this course, students should be able to describe the essentials of flux cored arc welding; set up according to procedure and operate flux cored arc welding equipment; weld different types of joints in the flat, vertical, and horizontal position on steel plate; select welding current, shielding gases, and filler wires; identify and practice safety precautions pertaining to flux cored arc welding.
*Corequisite: WLD 5450. (1-3) 2

WLD 5250 Basic Gas Metal Arc Welding: Upon completion of this course, students should be able to identify components, calibrate, and operate the gas-metal arc welding equipment; weld different types of joints in the flat position applicable to mechanical repair work; select welding heats and shielding gases; describe and demonstrate safety precautions pertaining to gas metal arc welding. (1-3) 2

*__WLD 5260 Welding Co-Op:__ Upon completion of this course, students should be able to apply skills acquired in welding courses to actual working situations in the welding industry; produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of two quarters of welding program courses. (0-20) 2

*__WLD 5267 Certification Practice:__ Upon completion of this course, students should be able to weld various metals to meet CPCC standards using oxyacetylene, shielded metal arc, gas tungsten arc, and gas-metal arc welding processes; demonstrate safety precautions involved in using welding and other shop equipment and tools.
*Prerequisite: WLD 5450, WLD 5433, WLD 5421, WLD 5422, WLD 5431, WLD 5432; Corequisite: WLD 5268. (0-6) 2

*__WLD 5268 Certification Testing:__ Upon completion of this course, students should be able to discuss and perform various tests including guided bend, liquid penetrant, magnetic particle, ultrasonic, and tensile tests to detect imperfections and discontinuities in weldments; demonstrate skill in producing quality welds.
*Prerequisite: WLD 5433, WLD 5450, WLD 5241, WLD 5421, WLD 5422, WLD 5431; Corequisite: WLD 5267, WLD 5432. (2-0) 2

WLD 5311 Oxyacetylene Welding and Cutting I: Upon completion of this course, students should be able to describe the principles of oxyacetylene welding and cutting; describe the operation of the equipment; assemble all components properly; form a puddle and carry the puddle forming weld beads in the flat position on different types of joints; identify and demonstrate all safety precautions involved in oxyacetylene welding. (2-3) 3

*__WLD 5355 Commercial and Industrial Practices I:__ Upon completion of this course, students should be able to demonstrate skill developed through practice in simulated industrial processes and techniques; sketch, lay out, list procedures, and construct a project following these procedures; repair worn or broken parts by special welding application; perform non-destructive tests and inspection; identify and practice safety precautions involved in the welding industry.
*Prerequisite: WLD 5433, WLD 5241, WLD 5450, WLD 5421, WLD 5431, WLD 5450. (1-6) 3

*__WLD 5356 Commercial and Industrial Practices II:__ A continuation of WLD 5355. Upon completion of this course, students should be able to prepare a bill of materials necessary to fabricate projects; fabricate projects from sketch or blueprint; demonstrate additional skill in those areas outlined in WLD 5355.
*Prerequisite: WLD 5355. (1-6) 3

WLD 5401 Basic Calculations for Welders: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the welding field; apply the functions of ratio and proportion to length and height of dimensions; read a scale satisfactorily; calculate the percentage of error involved in a given measurement; find weights and capacities of stock using area and volume formulas; understand angular measurement. (4-0) 4

***WLD 5404 Pipe Welding:** Upon completion of this course, students should be able to discuss proper procedures for fitting, positioning, determining gap clearance, tacking, and surface preparation of pipe; demonstrate proficiency in oxyacetylene flame cutting of pipe and test specimens to be used; weld pipe using the shielded metal arc welding process with E-6010 and E-7018 electrodes in the horizontal and vertical fixed positions; demonstrate and practice safety precautions pertaining to shielded metal arc welding equipment.
*Prerequisite: WLD 5240, WLD 5421, WLD 5422, WLD 5433, WLD 5431. (2-6) 4

WLD 5421 Shielded Metal Arc Welding I: Upon completion of this course, students should be able to identify the proper set-up and operation of an AC transformer, rectifier, and DC motor generator arc welding machine; identify and select welding electrodes, polarities, and heats used in joining various metal alloys; prepare and demonstrate welding proficiency on different types of joints in the flat and horizontal position; test welds to detect weaknesses and imperfections; demonstrate and practice safety precautions pertaining to shielded metal arc welding. (2-6) 4

***WLD 5422 Shielded Metal Arc Welding II:** This course is a continuation of WLD 5421. Upon completion, students should be able to demonstrate welding proficiency on different types of joints in all positions; make intermittent welds and multiple passes; test welds to detect weaknesses and imperfections; demonstrate and practice safety precautions pertaining to shielded metal arc welding.
*Prerequisite: WLD 5421. (2-6) 4

WLD 5431 Gas Tungsten Arc Welding I: Upon completion of this course, students should be able to define operations and uses of gas tungsten arc welding equipment; identify and select welding electrodes, shielding gases, filler rods, and heat ranges; demonstrate welding proficiency on different types of joints and various metal alloys, including aluminum and stainless steel in the flat position; test welds to detect weaknesses and imperfections; demonstrate and practice safety precautions pertaining to gas tungsten arc welding. (2-6) 4

***WLD 5432 Gas Tungsten Arc Welding II:** This course is a continuation of WLD 5431. Upon completion, students should be able to describe and demonstrate the proper set-up and operational procedures of gas tungsten arc welding equipment; demonstrate welding proficiency on different types of joints and various metal alloys, including aluminum and stainless steel in all positions; identify and select electrodes, gases, cutting heat ranges and operation of the plasma arc cutting system on non-ferrous metals; demonstrate and practice safety precautions pertaining to gas tungsten arc welding and plasma cutting.
*Prerequisite: WLD 5431. (2-6) 4

WLD 5433 Oxyacetylene Welding and Cutting I: Upon completion of this course, students should be able to describe the principles of oxyacetylene welding and cutting; describe the operation of the equipment; assemble all components properly; form a puddle and carry the puddle forming weld beads in the flat position on different types of joints; identify and demonstrate all safety precautions involved in oxyacetylene welding. (2-6) 4

WLD 5450 Gas Metal Arc Welding: Upon completion of this course, students should be able to describe the essentials of gas metal arc welding; set up according to procedure and operate the gas metal arc welding equipment; weld different types of joints in the flat, vertical, and horizontal positions on steel sheet metal plate and aluminum plate; select welding current, shielding gases, and filler wires; identify and practice safety precautions pertaining to gas metal arc welding. (2-6) 4

FACULTY & PROFESSIONAL STAFF

2. Choose a state in
which to
state in which
3.
4.

CPCC: WHERE OPPORTUNITY AWAITS

Faculty and Professional Staff

ABRAMS, CLAUD S., ABLE
B.A. 1963 (Mars Hill College); M.A., 1971 (East Carolina University); PhD., 1984 (Nova University). Additional study at North Carolina State University.

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A.A.S., 1981 (Central Piedmont Community College); B.S., 1983 (Pfeiffer College).

GRIFFIN, THOMAS EDWARD, Dean, Instructional Development and Innovation
B.S., 1952 (Western Carolina University); M.A., 1964 (Appalachian State University); Ed.D., 1976 (Nova University). Additional graduate study at University of North Carolina at Chapel Hill and North Carolina State University.

HAGLER, MITCHELL, JR., Assistant Dean, Arts and Sciences Division
B.S., 1960 (Appalachian State University); M.A., 1965 (Peabody College); Ed.D., 1973 (Appalachian State Unversity).

HALBACK, RICHARD, Program Director, Correctional Services
A.S., 1969 (Bernard Baruch School of Business Administration); B.S., 1970; M.A., 1974 (John Jay College of Criminal Justice, New York).

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B.S., 1967; M.A., 1968 (Appalachian State University); Ed.D., 1979 (Nova University).

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A.A., 1966 (Central Piedmont Community College); B.A., 1968 (University of Georgia); M.Ed., 1972 (University of North Carolina at Charlotte); Ph.D., (University of North Carolina at Greensboro).

HAMMOND, IRENE C., Supervisor, Inventory Control & Warehousing
Study at Gaston College and University of North Carolina at Charlotte

HANEY, MERIAM P., Advancement Studies
A.A., 1966 (Central Piedmont Community College); B.A., 1972 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Charlotte and Western Carolina University.

HARPER, JOHN E., SR., Vice President, Business and College Services
B.S., 1968 (Syracuse University); M.A., 1971 (University of Alabama); 1986 Institute for Educational Management, (Harvard University). Certified Public Accountant (CPA); Certified Management Accountant (CMA).

HARRISON, PEGGY BROOKS, Counselor, Special Services
B.A., 1977 (Gallaudet College); M.A. 1978 (New York University).

HARRISON, PHILLIP S., Assistant Manager, Plant Services
B.S., 1969 (Atlantic Christian College). N.C. Electrical Contractor's License, 1976.

HARTLEY, GAYLE MELTON, English and Foreign Languages
A.A., 1958 (Wingate Junior College); A.B., 1960: M.Ed., 1962 (University of North Carolina at Chapel Hill); Ph.D., 1971 (University of South Carolina). Additional study at New York State University.

HELLINGER, SOL, Director, General Services
A.A., 1975 (Central Piedmont Community College).

HELMS, IDA L., Advancement Studies
A.A., 1969 (Central Piedmont Community College); B.A., 1971: M.Ed., 1977 (University of North Carolina at Charlotte). Additional graduate study at University of Colorado.

HELMS, MARK E., Counselor
B.A., 1980 (Davidson College); M.A., 1982 (Appalachian State University). Additional study at University of North Carolina at Charlotte.

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Study at Winstonn-Salem Business College.

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B.F.A., 1966 (Ringling School of Art); M.A.T., 1977 (Winthrop College).

HENSON, CATHY J., Senior Lab Facilitator, Pineville Area Learning Center
A.A., 1984 (Central Piedmont Community College). Additional study at University of North Carolina at Charlotte and Central Piedmont Community College.

HEPTIG, RICHARD F., Automotive Mechanics
A.A.S., 1986 (Central Piedmont Community College).

HESSBERG, MARY ELLEN, Employment Advisor, Cooperative Education
A.A., 1961 (Centenary College for Women); B.A., 1984 (University of North Carolina at Charlotte).

HILL, LINDA W., Facilitator, Computer Center
A.G.E., 1985 (Central Piedmont Community College). Additional study at Central Piedmont Community College.

HOBBS, MARGARET WAGONER, Office Technology
B.S., 1961 (Appalachian State University); M.Ed., 1970 (University of North Carolina at Greensboro).

HOLLIS, TOM, Performing Arts, Drama
A.B., 1976 (Pfeiffer College); M.F.A, 1978 (Southern Illinois University, Carbondale).

HOLT, NANCY, Computer and Information Systems Technology
A.A.S., 1972 (Central Piedmont Community College). Additional study at Pfeiffer College.

HONEYCUTT, IRENE B., English and Foreign Languages
B.A., 1963 (Bob Jones University); M.A., 1969 (East Tennessee State University). Additional graduate study at University of Colorado and Dominican College at San Rafael.

HOOD, WILMA H., Associate Degree Nursing
B.S.N., 1970 (North Carolina Agricultural and Technical State University).

HORNE, KATHRYN, Performing Arts, Dance
American Ballet Theatre (Dance TCY dancer), Broadway Shows, Metropolitan Opera Ballet Teacher, Manhattan Festival Ballet (Director), Omaha Ballet, Dance Charlotte, Choreographer, Ballet, Opera, and Musical.

HOWARD, CORA C., Mathematics
B.S., 1963 (Johnson C. Smith University); M.A., 1969 (Ohio State University).

HOWARD, CLAUDE THOMAS, Director of New and Expanding Industry Training, Corporate & Contining Education
B.S., 1973 (North Carolina State University); M.Ed., 1974 (North Carolina State University). Additional graduate study at University of North Carolina at Charlotte, Western Carolina and Appalachian State University.

HOWELL EDWARD N., Supervisor, Grounds Maintenance
B.S., 1976 (North Carolina State University). Additional study at Appalachian State University.

HOWELL, JERRY, Graphic Arts
B.S., 1982, M.A., 1985 (Clemson University).

HUDSON, JUDITH THREATTE, Speech
A.B., 1963 (Pfeiffer College); M.Ed., 1969 (University of North Carolina at Greensboro). Additional graduate study at University of Georgia.

HUNEYCUTT, JUDY, Interpreter, Special Services
N.C. State Level III (Morganton, NC). ICTC National RID Certification, Charlotte, 1987.

HUNTER, DAVID LEE, Dean, Arts and Sciences
B.S., 1957 (Johnson C. Smith University); M.S., 1965 (Atlanta University); Ed.D., 1979 (Nova University). Additional graduate study at Rutgers University and North Carolina State University.

HUNTER, WRIGHT, JR., English and Foreign Languages
A.B., 1953 (Johnson C. Smith University); M.Ed., 1970 (University of North Carolina at Charlotte). Additional graduate study at University of North Carolina at Charlotte, Applachian State University, Atlanta University, and Temple University.

HUTCHINS, SONJA T., Office Technology
B.S.S.A., 1967 (University of North Carolina at Greensboro); M.A., 1968 (Appalachian State University); Ed.D., 1984 (North Carolina State University).

IBANEZ, HUGO J., English and Foreign Languages
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1971 (University of North Carolina at Greensboro).

JACKSON, WILLIAM L., Behavorial and Social Science
A.B., 1952 (University of Miami); M.S., 1962 (Utah State University). Additional graduate study at University of South Carolina and Florida State University.

JANE, MAGALY, English and Foreign Languages
B.S., 1964 (University of Tampa); M.A., 1968 (Appalachian State University).

JEFFRIES, LEWIS, Accounting Specialist
A.A., 1971 (Central Piedmont Community College).

JENKINS, SALLIE C., Library Services
B.S., 1960; M.A., 1961 (East Carolina University).

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M.A., 1980 (University of Cincinnati); B.S., 1976 (University of Cincinnati).

JOHNSON, DORA T., Department Head, Office Technology
B.S., 1957 (North Carolina Agricultural and Technical State University); M.A., 1960 (Columbia University). Additional graduate study at University of North Carolina at Greensboro, Nova University.

JOHNSON, HARRIET B., Senior Lab Facilitator, Special Services
B.S., 1979, Teaching (Appalachian State University).

JOHNSON, WILLIAM M., Program Director, Air Conditioning, Heating and Refrigeration Technology
A.S., 1959 (Southern Technical Institute). Additional study at University of Georgia, Auburn University and Sneade Junior College.

JOHNSTON, CAMILLE N., Employment Adviser, Student Employment and Career Planning Center
A.B., 1946 (Duke University).

JOHNSTON, CYNTHIA R., Department Head, ABE/ABLE
B.A., 1975; M.Ed., 1978 (University of North Carolina at Charlotte).

JONES, CATHY, Counselor
B.A., (Barber-Scotia College); M.Ed., (University of North Carolina at Charlotte).

JONES, DEBRA W., Senior Programmer Analyst
B.S., 1977 (North Carolina Central University).

JONES, JAMES B., JR., Mathematics
B.A., 1963 (Lenoir-Rhyne College); M.A., 1965 (University of South Carolina). Additional graduate study at Florida State University.

JONES, LONELL, Department Head, Nursing Programs
Diploma, 1957 (Hendrick Memorial Hospital School of Nursing; B.S.N., 1962 (Texas Christian University); M.S.N., 1966 (Washington University).

JORDAN, WILLIAM M. III, Custodial Services Supervisor, Plant Services
Study at Morgan State College and Central Piedmont Community College, Registered Building Service Manager. Basic Law Enforcement Training 1989. Sworn police officer (Charlotte Police Department Reserve).

JOYNER, NORMAN, Electrical and Electronics Engineering Technology
Specialty Schools, U.S. Army Electronics School, RCA and Westinghouse. Fifteen years electrical work experience.

KASLER, BARBARA JOHNSON, Art, Fine Arts
B.A., 1958 (Queens College); M.Ed., 1968 (Wayne State University).

KENNEDY, GEORGE MANUEL, Art, Commercial Art
B.A., 1967 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Charlotte.

KIBLER, WILLIAM ARTHUR, JR., Adult Education
B.S., 1960 (North Carolina Agricultural and Technical State University). Additional study at Appalachian State University.

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B.A., 1968 (Pfeiffer College); J.D., 1972 (Stetson University).

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B.A., 1955 (Wake Forest University); M.A., 1964 (Appalachian State University); Ed.D., 1976 (Nova University).

KISER, HELEN T., Practical Nursing
Diploma, 1953 (Mercy School of Nursing); B.A., 1973 (Limestone College); M.Ed., 1982 (University of North Carolina at Charlotte). Registered Nurse.

KOONS, GEORGE C., Law Enforcement
B.C.S., LL.D., and Juris Doctor, 1951 (Ohio State University); Certified Criminal Justice Instructor. Licensed Private Investigator.

KOONTS, G. DAN, Mechanical/Manufacturing Technology
A.A.S., 1971 (Davidson County Community College); B.E.T., 1976 (University of North Carolina at Charlotte). A.A.S.. 1986 (Central Piedmont Community College).

KUYATH, STEPHEN J., Electronics Engineering Technology
A.A.S., 1983 (Central Piedmont Community College); B.E.T., 1987 (University of North Carolina at Charlotte).

LABARGE, JEFFREY C., Hospitality Education
A.A.S., 1975 (State University New York at Morrisville); A.O.S., 1984 (Culinary Institute of America).

LAKE, BARBARA SUE, Advancement Studies
A.A., 1968 (Central Piedmont Community College); B.A., 1971 ; M.H.D.L., 1981 (University of North Carolina at Charlotte); A.G.E., 1982 (Central Piedmont Community College). Additional graduate study at North Texas State University and North Carolina State University.

LAMAL, PAULINE DOVE, Arts, Fine Arts
B.A., 1965 (Mary Baldwin College); M.F.A., 1969 (George Washington University).

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A.B., 1960; M.A., 1962 (Emory University); Ed.D., 1981 (Nova University) Cognitive-Behavioral Psychotherapist; 1988 (Georgia State University). Licensed Psychological Associate.

LASSITER, WILLIAM, CEC, CCE, Hospitality Education
1976-78, East Carolina University; A.O.S., 1981 (Culinary Institute of America); Member of American Culinary Federation-Charlotte Chapter, Board of Directors.

LAUNT, JONATHAN T., English and Foreign Languages
B.A., 1967; M.A.T., 1969 (University of North Carolina at Chapel Hill). Additional study at Clemson University.

LAWHORNE, LAURA, Computer Lab
A.A.S., 1980 (Central Piedmont Community College).

LEE, RAYMOND, Counselor, Talent Search
Study at Johnson C. Smith University, Temple University, and Spear and Hutchinson.

LEGG, CECIL A., Computer/Electronic/Electrical Technology
B.S.E.E., (West Virginia University). Additional study University of Cincinnati. Licensed Professional Engineer in the states of New York and North Carolina.

LESSLIE, JAMES WYLIE, Program Director, Architectural Technology
Bachelor Architecture, 1960 (Clemson University); M.Ed., 1989 (Appalachian State University).

LEWIS, LILLIAN R., Accounting Specialist
B.A., 1964 (Johnson C. Smith University).

LEWIS, THEODORE H., Computer and Information Systems Technology
Study at Western Carolina University.

LINDLEY, JOBEA R., Graphic Arts
B.S., 1959 (University of Oregon); M.S., 1964 (University of Oregon). Additional undergraduate study at Central Piedmont Community College. Additional graduate study at Johns Hopkins and Towson State College.

LITTLEJOHN, SYLVIA K., Student Employment Adviser, Student Financial Aid
B.A., 1983 (Winthrop College). Graduate study at Winthrop College and University of South Carolina.

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B.A., 1978 (Johnson C. Smith University). Additional study at Appalachian State University and University of North Carolina at Charlotte.

LOCKLER, RAY W., Environmental Systems Program
A.A., 1975 (Central Piedmont Community College).

LUCKADOO, SHIRLEY R., Department Head, Business Administration
A.A., 1963 (Gardner-Webb College); B.A., 1965 (Furman University); M.A.T., 1971 (Winthrop College); Ed.D., 1980 (North Carolina State University).

LUCKADOO, VAUGHN C., Program Director, Social Services Associate
B.A., 1968 (Wake Forest University); M.Ed., 1972 (University of North Carolina). Additional graduate study at University of North Carolina. N.C.C. (National Certification in Counseling). Registered Practicing Counselor, State of North Carolina.

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B.A., 1979 (University of North Carolina at Charlotte); M.A., 1988 (Appalachian State University). Nationally Certified Interpreter. Comprehensive Skills Certificate.

MAULDIN, PHILIP B., Department Head, Behavioral and Social Science
A.B., 1960 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University); Ph.D., 1973 (University of Alabama).

MAXWELL, DELORES M., Associate Degree Nursing
Diploma, 1962 (Provident Hospital School of Nursing); B.S., 1974 (Queens College); M.S.N., 1976 (University of North Carolina at Chapel Hill).

MAY, AURELIE O., Nursing
B.S.N., 1981 (University of Rhode Island); M.S.N., 1987 (Marymount University).

MAYHEW, JANICE F., Program Director, Medical Assisting
R.N., 1960 (Presbyterian Hospital School of Nursing); B.S., 1961 (Queens College). Additional study at Queens College and University of North Carolina at Charlotte.

MacLAUGHLIN, JACQUELYN W., Advancement Studies
B.S., 1979 (North Carolina State University); M.A., 1983 (University of North Carolina at Charlotte).

McAFEE, CYNTHIA A., Program Director, Health, Physical Education & Recreation
B.S., 1980 (Johnson C. Smith University); M.S., 1982 (University of Tennessee). Additional studies at University of North Carolina at Chapel Hill.

McALEXANDER, GLENDA K., Dental Hygiene
A.A., A.S. (Central Piedmont Community College); B.A., 1984 (University of North Carolina at Charlotte).

McALEXANDER, J. AARON, Physical Science
B.A., 1961 (Appalachian State University); M.A.T., 1965 (University of North Carolina at Chapel Hill); Ed.D., 1976 (Nova University).

McCASKILL, BENNIE, Senior Lab Facilitator, Visual/Performing Arts
A.A.S., Graphic Arts Management, 1982; A.A.S., Commercial Art Advertising Design, 1984 (Central Piedmont Community College).

McCLURE, JOE N., Mechanical/Manufacturing Engineering Technology
A.A.S., 1986 Mechanical Engineering Technology, (Central Piedmont Community College).

McCORD, SAMUEL W., Senior Interpreter Special Services
N.C. State Level III, 1982 (Charlotte, North Carolina).

McDERMOTT, SUSAN C., Program Director, Allied Health
B.S., 1980 (The University of Texas Medical Branch).

McDONALD, PEGGY P., Health and Physical Education
B.S., 1958 (Winthrop College). Additional study at University of South Carolina.

McDOW, ROGER, Air Conditioning, Heating and Refrigeration
Diploma, 1984 (Central Piedmont Community College).

McDUFFIE, JEAN STOVALL, Library Services
B.A., 1964 (Johnson C. Smith University); M.S.L.S., 1965 (Atlanta University).

McGAHA, GEORGE D., Electrical/Electronics Engineering Technology
A.A.S., 1981 (Central Piedmont Community College).

McGRATH, RALPH L., Supervisor, Accounting, Billing/Collections, Financial Services
Diploma, 1960 (American Institute of Banking).

McMANUS, ELLA L., Computer and Information Systems Technology
Diploma, 1983; A.A.S., 1985 (Central Piedmont Community College).

McMULLIN, DENNIS G., Program Director, Commercial Art
Professional Diploma, 1963 (Maryland Institute College of Art). I.D.E.C.

McMURRAY, ROBERT W., Accounting Supervisor, Accounting/Reports, Financial Services
Diploma, 1969 (Robert Morris Junior College).

MADDOX, MARSHALL M., Behavioral and Social Science
A.A., 1959: B.A., 1964: M.Ed., 1969 (University of Florida). Additional graduate study at University of Florida.

MARTIN, EDWARD VAN., Counselor
B.A., 1959 (Johnson C. Smith University). Additional study at University of Minnesota and Virginia Commonwealth University.

MEE, MARY ANN, Performing Arts, Dance
B.F.A., 1967 (Stephens College). Additional study at Texas Woman's University, University of Oregon, American Dance Festival at Connecticut College, Perry-Mansfield School of Theatre and Dance, Charles Weidman: Expression of Two Arts Theatre.

MELSON, SUSAN CRANE, Senior Librarian
B.A., 1962 (Pfeiffer College); M.S.L.S., 1966 (University of North Carolina at Chapel Hill).

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GED., (Central Piedmont Community College)

MILLS, BILLIE, Purchasing Agent I
Study at Queens College, City University of New York; Central Piedmont Community College

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A.A., 1946 (Stephens College).

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B.S., 1966 (University of Alabama); Certificate in Respiratory Therapy, 1968 (Duke University Medical Center).

MORROW, ROBERT A., JR., Mathematics
B.S., 1959; M.S., (North Carolina State University).

MULLIS, JAMES S., Advancement Studies
A.A., 1979 (Central Piedmont Community College); B.A., 1984 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Charlotte.

MYERS, MICHAEL G., Manager, Community Relations
B.S., 1953 (Davidson College). Additional study at Harvard University.

MYLES, HARRY E., Computer/Electrical/Electronic Technology
B.S.E.E., 1957 (University of Toledo); M.S.E.A., 1966 (Syracuse University). Registered Professional Engineer.

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B.S., 1975 (University of North Carolina at Charlotte); A.A.S., 1986 (Central Piedmont Community College). Additional study at University of North Carolina at Greensboro, Gaston College and Central Piedmont Community College.

NELSON, CLARA E., Accounting
B.S., 1962; M.A., 1965 (Appalachian State University).

NELSON, GARY, Business Administration
B.S., 1970 (Southern Illinois University); N.H.D.L., 1980 (University of North Carolina at Charlotte). Graduate study Winthrop College.

NELSON, NANETTE, Instructional Designer, Interactive Telecommunications Network
B.A., 1968 (University of South Florida); M.A., 1974 (University of Florida).

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B.S., 1970 (State University of New York at Oneonta); M.A., 1985 (Appalachian State University).

NICHOLS, ANDY O., Program Director, Industrial Safety, Security and Health Management Technology
B.A., 1974 (Winthrop College). Licensed Psychological Stress Evaluator; Licensed Private Investigator; NC Certified Criminal Justice Instructor; Certified in Forensic and Investigator Hypnosis; Certified Hypnotherapist

NIELSEN, BJARNE T., English and Foreign Languages
B.S., 1970 (Aalborg Seminarium, Denmark); B.A., 1974 (Ambassador College, England).

ODELL, ROBERT STANLEY, Mechanical Engineering Technology
B.S., 1951; M.A., 1959 (East Tennessee State University). Additional study at University of North Carolina at Chapel Hill and North Carolina State University.

ODER, HENRY ALLEN, Business Administration
A.B., 1947; LL.B., 1956 (Washington and Lee University).

ONUKWUFOR, GLORIA J., Library Services
B.A., 1974 (Johnson C. Smith University).

ORELL, MARGERY, Library Services
B.A., 1968 (Santa Clara University); Masters of Librarianship, 1975 (University of Washington).

ORR, DORIS W., Mechanical Engineering Technology
A.A.S., Mechanical Engineering Technology, 1979 (Central Piedmont Community College); B.A., English, 1985 (University of North Carolina at Charlotte).

OTTERBOURG, EDNA M., Biology
B.S., 1953 (University of North Carolina at Greensboro); M.A.T., 1968 (University of North Carolina at Chapel Hill).

PAYNE, JAMES W., Welding
Study at Western Carolina University, Central Piedmont Community College and F.M.C. Ordinance Division Welding School. A.W.S., A.S.M.E., A.B.S. and Military Welding codes qualifications, steel and aluminum.

PENNINGTON, ARIS T., Program Coordinator, Corporate and Continuing Education
B.S., 1972 (Tuskegee Institute).

PERKINS, WILLIAM S., Writer/Producer
B.A., 1972; M.Ed., 1974 (University of Houston).

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B.A., 1977; M.Ed., 1981 (North Carolina Central University).

PERSON, PAMELA W., Senior Computer Center Facilitator
B.S., 1977 (North Carolina Central University). Graduate study at Appalachian State University.

PETTY, NORMAN HOLMES, Corporate/Continuing Education
B.A., 1962 (Wheaton College); M.B.A., 1970 (Georgia State University); Ph.D., 1981 (University of North Carolina at Chapel Hill).

POINTER, SHEILA P., Dental Programs
Dental Assisting Diploma, 1968 (Central Piedmont Community College). Additional study at Lee McRae College

PRIM, MARZELLE RENEE, Lab Instructor, Business Administration
B.A., 1986 (University of North Carolina at Charlotte). Additional study at Central Piedmont Community College.

PRIVETTE, DAVID R., Physical Science
B.A., 1975 (University of North Carolina at Charlotte); M.A., 1978 (University of Georgia).

QUINLEY, JOHN W., Director, Planning & Research
B.A., 1970 (Bard College); M.Ed., 1976 (University of New Hampshire); Ed.S., 1979 (Appalachian State University).

QUINN, EMMA R., Director, Small Business Center
B.G.S., 1980 (Queens College). Additional study at University of North Carolina at Charlotte.

RANDALL, ANNETTE M., English and Foreign Languages
A.B., 1967 (University of North Carolina at Chapel Hill); M.A., 1968: EdS., 1977 (Applachian State University); PhD., 1982 (University of Texas at Austin).

READ, DANIEL EDWIN, JR., Biology
B.S., 1961 (University of Florida); M.A., 1964 (Duke University). Additional study at University of North Carolina at Greensboro and University of North Carolina at Charlotte.

REEP, SAMUEL C., Department Head, Mathematics
A.A., 1958 (Lees-McRae College); B.S., 1960; M.A., 1964 (Appalachian State University); National Science Fellowship, 1967 (Florida State University). Additional undergraduate study at North Carolina State University. Additional graduate study at Carleton College.

REID, ANN C., Office Technology
B.S., 1959 (Appalachian State University); M.A.T., 1974 (Winthrop College).

REID, GLENN J., Business Administration
B.A., 1976; M.A., 1978 (State University of New York at Binghamton); J.D., 1983 (University of North Carolina at Chapel Hill).

REID, RUFUS EUGENE, JR., Advancement Studies
B.S., 1958; M.Ed., 1965 (Appalachian State University).

REMELIUS, FRED, Manager, Plant Services
B.S., 1979 (University of South Carolina); 1980, Surface Warfare Officer School, (U.S. Navy); 1981, Fire Fighting and Repair Party Leader School (U.S. Navy); 1982, Gas Turbine Main Propulsion School (U.S. Navy); 1987, Certified Plant Engineer (American Institute of Plant Engineers). Additional study at Central Piedmont Community College and Queens College.

REYNOLDS, BRADFORD J., Department Head, Human Services
A.B., 1962 (Elon College); M.Ed., 1977 (Nova University).

RHODEN, DAVID A., Supervisor, Testing Center
A.A., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte).

RICHARD, RAYMOND G., English and Foreign Languages
B.A., 1953 (University Saint-Louis, Edmunston, NB, Canada); M.A., 1963 (Universite Laval, Quebec, PC, Canada). Additional study at University of London and University of South Carolina

RICKETSON, CYNTHIA L., English and Foreign Languages
B.S., 1964; M.A., 1966 (University of Tennessee).

RITCH, FRED S., CAM Lab Manager and Machine Shop Instructor
A.S., 1944 (Centenary College).

ROBINSON, LOUISE PARSON, Counselor
B.S. 1956, M.S., 1963 (Oklahoma State University).

ROGERS, JAMES COOK, Behavioral and Social Science
B.A., 1966; M.A. 1968 (Wake Forest University). Additional graduate study at University of California at Berkeley and University of Kentucky.

ROJO, LORETTA BURCH, Accounting
B.S., 1965 (Winthrop College); M.Ed., 1969 (University of North Carolina at Greensboro).

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B.S., 1958 (Appalachian State University); M.S., 1978 (Winthrop College). Additional graduate study at University of North Carolina at Greensboro and Charlotte.

ROSS, ELIZABETH SPROUL, Arts, Fine Arts
B.A., 1959 (Queens College); M.F.A., 1965 (University of North Carolina at Greensboro).

ROSS, LUTHER L. SR., Accounting
B.S.B.A., 1972 (Gardner-Webb College); M.A., 1978 (Western Carolina University). Additional studies at The Citadel and Appalachian State University.

ROSS, MARGARET M., Minority Recruiter, Student Development
A.B. (North Carolina Central University). Additional study at University of North Carolina at Charlotte.

ROWELL, ANN PARKIN, Accounting
B.S., 1973 (University of North Carolina at Greensboro); M.B.A., 1985 (Winthrop College). Certified Public Accountant.

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B.S., 1973 (Clemson University); B.S., 1975 (Medical College of Georgia); M.H.E., 1988 (Medical College of Georgia). Licensed Physical Therapist.

ST. CLAIR, DONNA, Interpreter, Special Services
A.A., 1961 (George Washington University); B.A. 1975 (University of North Carolina at Charlotte). North Carolina State Level II, 1982 (Charlotte, North Carolina). Additional graduate study at University of North Carolina at Charlotte.

SASSER, JAMES HOWARD, Behavioral and Social Science
A.B., 1959 (High Point College); M.A., 1960; Ed., 1968 (George Peabody College for Teachers); Ed.D., 1976 (Nova University).

SAVAGE, MOLLY F., Allied Health - Medical Assistant Program
A.A., 1955 (Mars Hill Junior College); B.S.N., 1958 (Duke University). Registered Nurse.

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B.A., 1963 (Pennsylvania State University); M.S.L.S., 1965 (Drexel University). Additional study at Appalachian State University.

SECHRIST, JEFFREY W., Director, Human Resource/J.T.P.A. Liaison
B.A., 1971 (LaSalle University); M.A., 1978 (University of North Carolina at Charlotte). Additional study at University of Virginia and Appalachian State University.

SHAMSID-DEEN, DEVENURE NIVENS, English and Foreign Languages
B.A., 1968 (Johnson C. Smith University). Additional study at University of North Carolina at Charlotte and Appalachian State University.

SHAW, RUTH G., President
B.A., 1969, M.A., 1972 (East Carolina University); Doctoral Study, 1974-75 (North Carolina State University); Ph.D., 1977 (University of Texas).

SHIRKEY, KATHRYN T., Program Director, Child Care Training Center
B.A., 1952 (Albion College).

SOOS, GEORGE, Program Director, Mechanical Engineering Technology
B.S.E., 1944 (Hungarian Royal Technical Military Academy). Additional study at North Carolina State University. Registered Professional Engineer.

SPAULDING-DIXON, MARION, Counselor, Talent Search
B.A., 1971 (Fisk University). Additional study at University of Ghana and Fisk University.

STANLEY, KAREN, English and Foreign Languages
B.A., 1977 (Wayne State University); Certificate in Teaching English as a Second Language, 1980 (American University); Graduate study at American University. Additional study at University of Virginia.

STRANES, CHARLES C., Program Director, Music/Dance, Visual/Performing Arts
B.S., 1956 (East Carolina University); M.Ed., 1967 (University of North Carolina at Chapel Hill). Additional study at Florida State University and Oberlin College Conservatory.

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B.A., 1969 (University of North Carolina at Chapel Hill).

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B.S., 1962 (Maryville College); M.S., 1965 (University of Tennessee); Ph.D., 1970 (Clemson University).

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Diploma, Licensed Practical Nurse ; A.A., 1977 (Central Piedmont Community College); B.A.,1979 (University of North Carolina at Charlotte). Graduate study at University of North Carolina at Charlotte.

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Comprehensive Skills Certificate, Legal Specialist from National Registry of Interpreters for the Deaf.

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Interpreter Certificate (National Registry of Interpreters); A.A.S., 1984; A.A., 1986 (Central Piedmont Community College).

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B.A., 1964 (Cornell College); M.A., 1966 (Michigan State University). Additional study at Michigan State University.

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TEMPLE, WILLIAM S., Advancement Studies
A.B., 1956 (Lenoir-Rhyne College); M.Ed., 1962 (University of North Carolina at Chapel Hill). Additional study at Duke University).

TEMPLEMAN, DEBRA, Counselor
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A.A., 1984 (Central Piedmont Community College). Additional study at Limestone College and Central Piedmont Community College.

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B.S.E.E., 1962 (Duke University); M.Ed., 1975 (University of North Carolina at Charlotte).

TOLSON, JENNY MILLER, Counselor, Special Services
A.A., 1976 (Peace College); B.A., 1978 (Meredith College); M.Ed., 1979, (East Carolina University).

TONG, DIEP N., Accounting Specialist
A.A., 1976 (Rochester Community College); B.S., 1978 (Winona State University).

TREVOR, FLORENCE G., Advancement Studies
B.A. 1947 (Barnard College); M.A., 1963, (University of Tennessee). Additional graduate work at University of South Carolina and University of California, Berkeley.

VANCE, THOMAS M., Performing Arts, Drama
B.S., 1960; M.A., 1962 (Appalachian State University). Additional study at University of North Carolina at Chapel Hill and University of Georgia.

WADE, JO ELLEN, Writer/Producer, Media Production
Diploma, 1953 (Bradford Junior College); B.A., 1955 (University of North Carolina at Chapel Hill); M.A., 1985 (Appalachian State University).

WAGNER, CARL C., Architectural and Civil Engineering Technology
A.A.S., 1976 (Central Piedmont Community College); B.E.T., 1979 (University of North Carolina at Charlotte).

WALKER, HAROLD DEAN, Director, Computing Services
A.A.S, 1967 (Central Piedmont Community College).

WALLACE, ROBERT G., Program Director, Welding
Diploma, 1963 (Central Piedmont Community College). Additional study at North Carolina State University.

WALSH, WILLIAM P.R., Business Administration
B.S.B.A., 1976 (Suffolk University, Boston, MA); M.B.A., 1981 (Northeastern University, Boston, MA).

WALTERS, RONALD KEITH, Art, Commercial Art
B.F.A., 1956 (Maryland Institute of Art); M.Ed., 1973 (University of North Carolina at Charlotte).

WALTERS, W.J., JR., Program Director, Business Administration, Industrial Management
B.S., 1957 (Appalachian State University); M.Ed., 1960 (University of North Carolina at Chapel Hill). Additional study at Winthrop College.

WARREN, GEORGE C., III, Behavioral and Social Science
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WATSON, BETTY L., Director, Resource Development
B.A., 1952 (University of Denver); M.A., 1956 (Columbia University). Additional study at University of South Carolina, University of LaVerne, University of North Carolina at Charlotte, and Central Piedmont Community College.

WAY, MARY A., English and Foreign Languages
B.A., 1960 (Queens College); M.A.T., 1965 (University of North Carolina at Chapel Hill). Additional study at University of North Carolina, Winthrop College, Oxford University (England), University of Illinois, Cornell University, Alexandra Tolstoy Institute, and Indiana University.

WEEKS, ROGER, Real Estate Program
B.A., 1967, (Southwest Missouri State College), M.S., 1969 (Iowa State University).

WEST, PATRICIA ELLEN, Business Administration
B.A., 1983, M.B.A., 1986 (Queens College).

WESTCOTT, RENEE, Dean, Learning Resources
B.S., 1952 (Fayetteville State University); M.A., 1968 (North Carolina Central University); Ed.D., 1972 (Duke University).

WHITLEY, JAMES A., Respiratory Therapy
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WHITLEY, RALPH W., Behavioral and Social Science
A.B., 1965 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University).

WHITTEN, SALLY T., Program Director, Physical Therapist Assistant Program
B.S., 1975 (Medical University of South Carolina). M.Ed., 1988 (University of North Carolina at Charlotte.) Licensed Physical Therapist.

WIDENHOUSE, JAMES WAYNE, Program Director
Machinist Program Certificate, 1971 (North Carolina Machinist Apprenticeship); Machinist Diploma, 1972 (Central Piedmont Community College). Additional study at Western Carolina University.

WILLIAMS, ARTHUR LEE, Auto Body Repair
Diploma, 1972 (Central Piedmont Community College). Additional study at Central Piedmont Community College.

WILLIAMS, ARTHUR M., Program Director, Performing Arts, Piano Tuning and Repair
B.M., 1956 (North Texas State University); Diploma in Piano Tuning and Repair, 1964 (North Bennett St. Industrial School, Boston).

WILLIAMS, BETTY GAILE, Counselor, Student Employment and Career Planning Center
B.A., 1969 (University of North Carolina at Chapel Hill); M.Ed., 1977 (University of North Carolina at Charlotte).

WILLIAMS, CLAUDE T., Department Head, Advancement Studies
B.A., 1977 (South Carolina State College); M.Ed., 1978 (Winthrop College). Additional study at Winthrop College and University of South Carolina.

WILLIAMS, RONALD D., Computer and Information Systems Technology
B.A., 1971 (University of North Carolina at Chapel Hill); M.A., 1977 (University of Northern Colorado); A.S., 1980 (Central Piedmont Community College).

WILSON, MARJORIE, Advancement Studies
A.B., 1972; M.S., 1973 (State University College, Fredonia, New York).

WILSON, WILLIAM RAY, Mathematics
B.S., 1959; M.Ed., 1965 (Georgia Southern University). Additional graduate study at Auburn University and North Carolina State University.

WINGATE, JAMES G., Vice President for Education, Administration
B.S., 1966 (Allen University); M.S. and C.A.S., 1975 (State University of New York at Oswego); Ph.D., 1979 (Syracuse University).

WISDOM, STAN L., Behavioral and Social Science
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1977 (East Carolina University). Additional study at North Carolina State University.

WOLF CHERYL J., Dental Assisting
B.S., 1980 (University of New York—Buffalo).

WOOD, EDGAR L., Computer/Electrical/Electronics Engineering Technology
M.E.N.G., 1968 (Pennsylvania State University); B.E.E., 1962 (University of Florida).

WOOD, STUART, JR., Program Director, Civil Engineering Technology
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WRIGHT, GEORGE W., JR., Program Director, Fire Protection Technology
B.A., 1968 (Belknap College); A.A.S, 1970 (Rowan Technical Institute); B.S., 1982 (Edison State College).

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WYKLE, BILLIE DALE, Automotive Technology
Diploma, 1972, (Central Piedmont Community College).

WYLIE, ALEX, Assistant Manager, Disbursements, Payroll, Financial Services
B.S., 1960 (The Citadel).

ZELLER, JAMES DOUGLAS, Performing Arts, Music
B.A., 1969 (Furman University); M.S.M., 1971 (Union Theological Seminary School of Sacred Music, New York).

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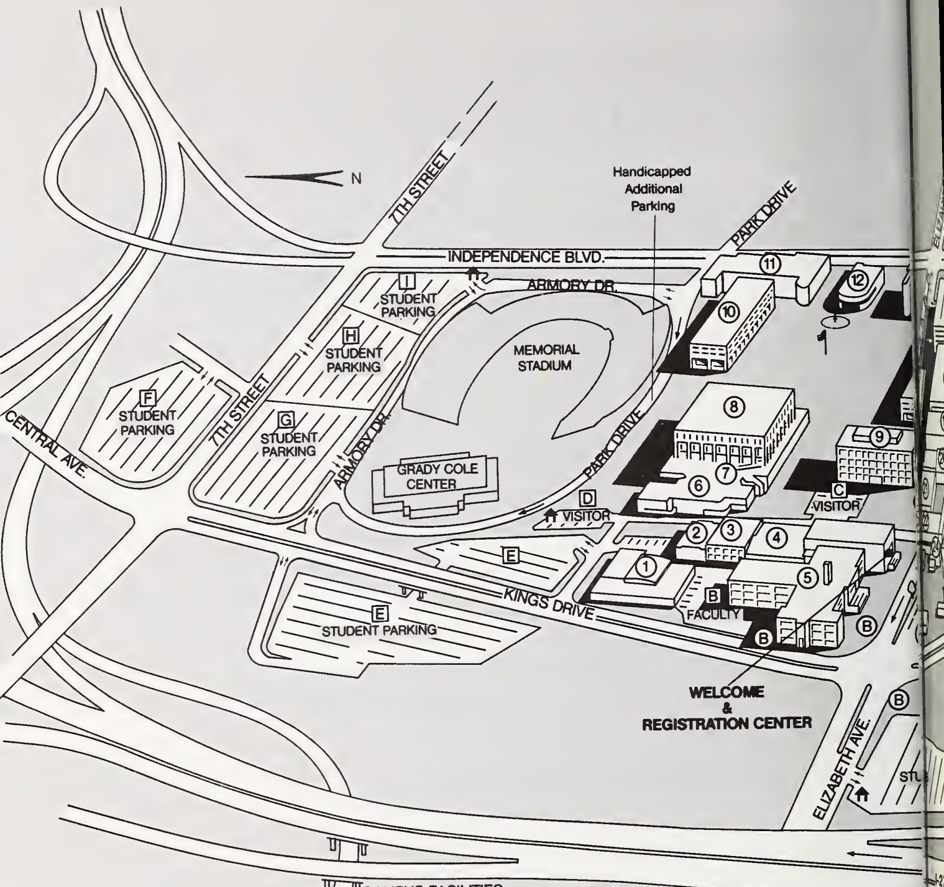
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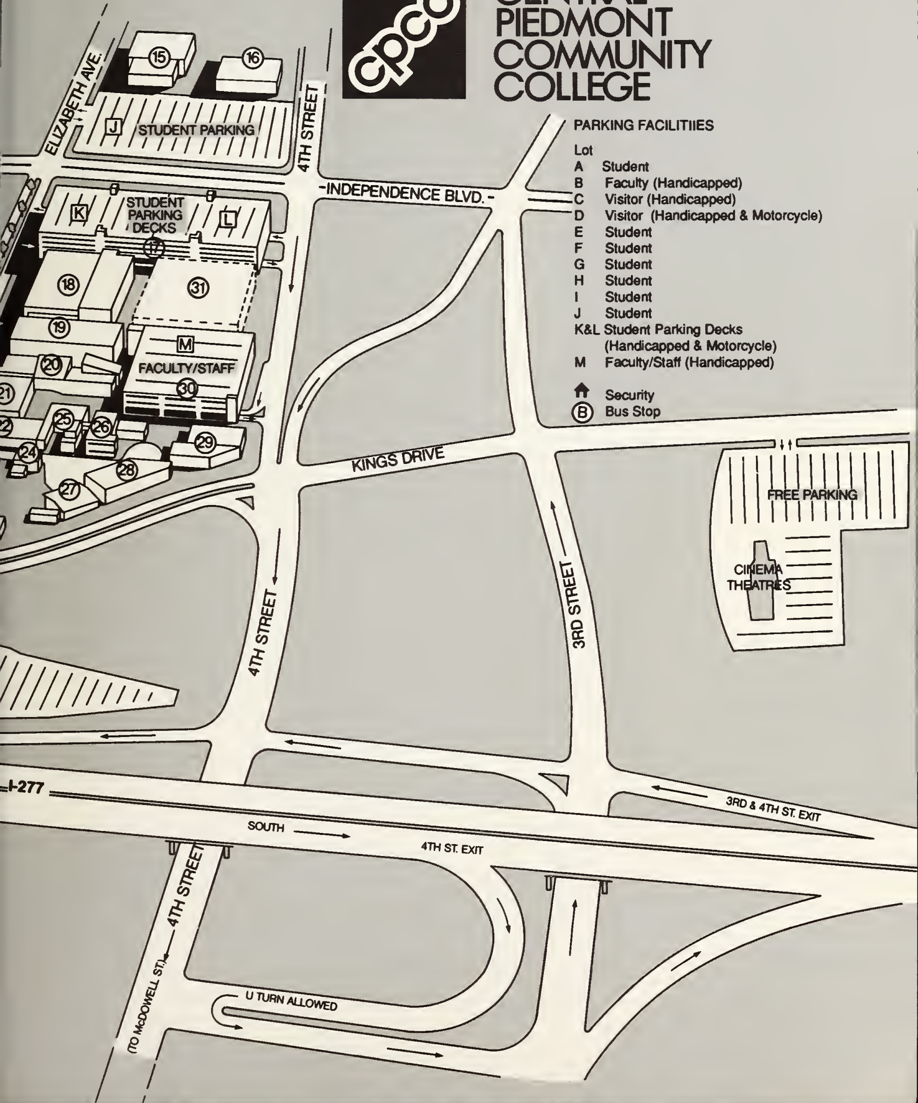
Visual Arts (VA)	3

CENTRAL PIEDMONT COMMUNITY COLLEGE


ELIZABETH AVE.
15
16
J
STUDENT PARKING
4TH STREET
INDEPENDENCE BLVD.
K
STUDENT PARKING DECKS
L
17
18
31
19
M
FACULTY/STAFF
20
30
21
22
25
26
29
24
28
27
KINGS DRIVE
FREE PARKING
CINEMA THEATRES
4TH STREET
3RD STREET
I-277
SOUTH
4TH ST. EXIT
3RD & 4TH ST. EXIT
4TH STREET
(TO McDOWELL ST.)
U TURN ALLOWED

PARKING FACILITIIES

Lot	
A	Student
B	Faculty (Handicapped)
C	Visitor (Handicapped)
D	Visitor (Handicapped & Motorcycle)
E	Student
F	Student
G	Student
H	Student
I	Student
J	Student
K&L	Student Parking Decks (Handicapped & Motorcycle)
M	Faculty/Staff (Handicapped)
⌂	Security
Ⓑ	Bus Stop

NON-PROFIT
ORGANIZATION
POSTAGE
PAID
CHARLOTTE, N.C.
PERMIT NO. 1177
THIRD CLASS

CENTRAL
PIEDMONT
COMMUNITY
COLLEGE

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